Prevalence and Patterns of Psychiatric Disorders in Preschool Children Referred to an Outpatient Psychiatry Clinic

Psikiyatri Kliniğine Başvuran Okulöncesi Çocuklarda Psikiyatrik Bozuklukların Yaygınlığı ve Örüntüleri

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Abstract

Aim: The aim of this study was to investigate prevalence and patterns of psychiatric disorders in preschool children (at or below 72 months of age) consecutively referred to a state hospital's child psychiatry outpatient clinic in Trabzon, Turkey.

Materials and Methods: Diagnostic assessment was conducted using a semi-structured instrument, Schedule for Affective Disorders and Schizophrenia for School Age Children-Present and Lifetime Version (K-SADS-PL). If needed, developmental evaluation was conducted using Denver Developmental Screening Test II (DDST). 200 preschool children (122 males, 61%; 78 females, 39%) with an age range of 17-72 months (48.52±13.44 months) were included in the study.

Results: More than half of the subjects (n=130; 65%) received at least one psychiatric diagnosis. Of the children 34 % (68/200) met criteria for two or more diagnoses. Of males 71% (87/122), and of girls 55% (43/78) received at least one diagnosis. There were significant differences between boys and girls with regard to rates of overall psychopathology (p=0,0309) and rates of comorbidity (p=0,0022). Most frequent diagnoses were attention deficit hyperactivity disorder (n=54; 27%), language and speech disorders (n=34; 17%), anxiety disorders (n=33; 16.5%) and oppositional defiant disorder (n=21; 10.5%).

Discussion and Conclusion: Findings of this study suggest that preschool children presenting to psychiatry clinics may have high rates of psychopathology and comorbidity that may be a source of concern for the subjects and parents. Boys are more likely to have multiple psychiatric diagnoses. Psychopathology in preschool children can be assessed using structured instruments such as K-SADS.

Key Words: children; preschool; psychopathology; disruptive behavior disorders

Özet

Amaç: Bu çalışmanın amacı bir devlet hastanesi çocuk psikiyatrisi polikliniğine başvuran okulöncesi çocuklarda psikiyatrik bozuklukların yaygınlık ve örüntülerini araştırmaktır.

Gereç ve Yöntemler: Araştırmada tanısal değerlendirme için yarı-yapılandırılmış bir psikiyatrik görüşme formu olan Okul Çağı Çocukları için Duygulanım Bozuklukları ve Şizofreni Görüşme Çizelgesi-Şimdi ve Yaşam Boyu Şekli (ÇDŞGŞY) kullanıldı. İhtiyaç duyulması halinde gelişimsel değerlendirme için Denver Gelişimsel Tarama Testi II (DGTT II) kullanıldı. Yaşları 17-72 ay (48,52±13,44 ay) arasında değişen 200 okulöncesi çocuk (122 erkek, %61; 78 kız, %39) çalışmaya alındı.

Bulgular: Olguların yarısından fazlası (n=130; %65) en az bir psikiyatrik tanı aldı. Olguların %34'ü (68/200) iki ya da fazla tanı aldı. Erkeklerin %71'i (87/122), kızların %55'i (43/78) en az bir tanı aldı. Erkek ve kızlar arasında genel psikopatoloji (p=0,0309) ve komorbidite (p=0,0022) oranları açısından belirgin farklılık vardı. En sık tanılar dikkat eksikliği hiperaktivite bozukluğu (n=54; %27), dil ve konuşma bozuklukları (n=34; %17), anksiyete bozuklukları (n=33; %16,5) ve karşı olma karşı gelme bozukluğu (n=21; %10,5) şeklindeydi.

Tartışma ve Sonuç: Bu çalışmanın bulguları psikiyatri kliniklerine başvuran okulöncesi çocuklarda çocuk ve aile açısından kaygı verici olabilecek denli yüksek psikopatoloji ve komorbidite oranlarıyla karşılaşılabileceğine işaret etmektedir. Erkek çocukların çoklu psikiyatrik tanı alma olasılıkları daha fazladır. Okulöncesi çocuklarda psikopatoloji ÇDŞG-ŞY kullanılarak değerlendirebilir.

Anahtar Kelimeler: çocuklar; okulöncesi; psikopatoloji; yıkıcı davranış bozuklukları

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INTRODUCTION

There has been significant improvement in the nosology, epidemiology, phenomenology, and treatment of psychiatric disorders in children and adolescents during the last decades. It has been so far reported and demonstrated that many of the major childhood psychiatric disorders, such as developmental disorders, externalizing disorders [attention deficit hyperactivity disorder (ADHD), oppositional defiant disorders (ODD) and conduct disorder (CD)], anxiety and mood disorders frequently manifest during preschool year (1-5). However, preschool children remain an understudied population, and our understanding of the nosology, epidemiology, and phenomenology of psychiatric disorders is still far behind our understanding of psychiatric disorders in older children and adolescents (1). There have been a number of studies reporting significant rates of psychiatric disorders among preschool children in community (6-9) or clinical (psychiatric or pediatric) samples (4,10-12) using Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision (DSM-IV-TR) (13) or ICD-10 criteria. However, there seem to be significant differences between prevalence and patterns of psychiatric disorders reported in these studies, due possibly to study design and sample characteristics, instrument/criteria used in the study, and study country. While there has been limited literature on the nosology and phenomenology of most psychiatric disorders in preschool children, recent studies have demonstrated that preschool children can develop and suffer from behavioral and emotional problems that may be part of a psychiatric syndrome and may warrant clinical attention (1-12). These early disorders are associated with impairment in multiple developmental domains, including cognitive, social and emotional functioning (1-12).

The present study aims to investigate prevalence and patterns of psychiatric disorders in preschool children referred to a state hospital outpatient child psychiatry clinic in Trabzon, Turkey. There is a limited number of studies on this topic, and the majority of these studies come from Western countries. Studies from non-Western populations may be important, and we believe that this study will contribute to the literature. We expect that there will be significant rates of psychopathology and comorbidity among psychiatrically referred preschool children, and those rates might be higher for boys than girls.

MATERIALS AND METHODS

Participants

Subjects in this study were preschool children, below or at 72 months of age, consecutively presenting to an outpatient child psychiatry clinic in a state hospital in Trabzon, Turkey, during a five-month period. Those subjects were referred for a number of behavioral /emotional /developmental problems or just out of parental concern for their child.

Instruments

1. Interview Form: This form was developed by the authors to investigate a) socio-demographics (such as age, gender, education, parents' ages and education, number of children in the family) b) main complaints/concerns of the parents or reason(s) for referral, and c) major DSM-IV psychiatric disorders. The interview form included major childhood psychiatric disorders that are relevant to preschool children (such as ADHD, ODD, anxiety disorders, mood disorders, elimination disorders, tic disorders, and developmental disorders such as autism spectrum disorders, mental retardation, and language & speech disorders).

2. Schedule for Affective Disorders and Schizophrenia for School Age Children-Present and Lifetime Version (K-SADS-PL): The K-SADS-PL is a semi-structured diagnostic interview designed to assess current and past episodes of DSM-IV psychiatric disorders in school-age children and adolescents (14). Given that it has not originally been designed for preschool-age children, Birmaher et al. (2009) conducted a psychometric study to assess the reliability of the K-SADS-PL in preschool children, aged 2 to 5 years (mean age 3.8 ± 1.2 years), and suggested that the K-SADS-PL is a reliable instrument to evaluate DSM-IV psychiatric disorders in preschoolers (2). The reliability and validity of the Turkish version (K-SADS-PL-T) has been successfully tested by Gokler et al. (2004) (15).

3. Denver Developmental Screening Test II (DDST): DDST II is a widely used, readily administered screening tool for early identification of developmental delays in children from birth to 6 years of age (16,17).

Procedure

During initial clinical interview, subjects were assessed for socio-demographics, main complaints of the parents and/or reason(s) for referral, and developmental and medical history. Routine psychiatric examination was conducted and subjects were given a provisional clinical diagnosis. In subsequent sessions, subjects between 36 and 72 months of age were further interviewed using K-SADS-PL-T to confirm each provisional clinical diagnosis. Final diagnosis of ADHD, ODD, anxiety disorders, mood disorders, elimination disorders and tic disorders was made using K-SADS-PL-T (14). Diagnosis of developmental disorders (autism spectrum disorders, language & speech disorders, mental retardation) was made using DSM-IV criteria. If a diagnosis of developmental disorder was suspected, developmental evaluation was also conducted using DDST II. In the diagnostic interview, subjects under 36 months of age (n=17; 8.5%) were assessed only for developmental disorders. Diagnosis of individual disorders was made if the diagnosis was a source of clinical concern because of the nature of the symptoms and the associated impairment.

Data regarding main complaints/concerns of the parents or reasons for referral were gathered without any directive questioning. Parents were allowed enough time to make a list of main complaints/concerns during the first visit. These complaints/concerns were coded with the same words that the parents used. However, for the purpose of easy presentation, those lists were reworded and reorganized in four categories: a) behavioral category (any combinations of the following symptoms: hyperactivity, impulsivity, irritability, oppositional behaviors, physical or verbal aggression towards animate or inanimate objects, bullying, out of control behaviors, rage attacks, self-injurious behaviors, risky behaviors, talkativeness); b) developmental category (delay or abnormalities in language, social, and motor development); c) emotional /adaptive category (any combinations of the following symptoms: excessive fears and worries, sensibility, tearfulness, shyness, obsessions or compulsions, unhappiness, problems in peer or sibling relations, school refusal or problems in school adaptation); and d) others (problems in sleep, feeding, bladder and/or bowel functions, somatic complaints, nail biting, finger sucking, tics, masturbation, pica, exposure to a traumatic event, suspect of abuse, or consultation for any problem).

Subjects in this study had been followed up for a period of 1 to 12 months. Mean duration of follow-up was 5.2 months and mean number of clinical visit was 4.2. At each clinical visit, the subject's diagnosis and clinical condition were re-assessed. An ethics committee at the Kanuni Research and Training Hospital in Trabzon approved the study, and participating parents gave their informed consent to be included in the study.

Statistical Analysis

MedCalc statistical software (v12.3.0) was used for statistical analysis. We used means and percentages for descriptive statistics, and comparison of two proportions for comparing rates of psychopathology and comorbidity between boys and girls. A p value <0.05 was accepted statistically significant.

RESULTS

200 preschool children were included in the study. Of those, 122 (61%) were male and 78 (39%) were female. Age range of the subjects at the time of clinical presentation was 17-72 months (48.52±13.44 months). 26 subjects (13.0 %) had to leave kindergarten or nursery school due to behavioral/adjustment problems. In 58 subjects (29.0%) kindergarten, nursery school or special education school was the main referring source. Table 1 shows details for socio-demographic characteristics of study subjects.

More than half of the subjects (n=130; 65%) had at least one psychiatric diagnosis. Of the children, 34 % (68/200) met criteria for two or more diagnoses; 52% of those with at least one diagnosis (68/130) met criteria for multiple diagnoses. 44 subjects received two or more and 24 subjects received three or more diagnoses. 71% of the boys (87/122), and 55% of the girls (43/78) received at least one diagnosis. 59% of the boys (52/87) and 37% of the girls (16/43) with at least one diagnosis received multiple diagnoses. Table 2 shows prevalence of individual DSM-IV psychiatric diagnoses among subjects.

There were significant differences between boys and girls regarding rates of overall psychopathology

Table 1. Socio-demographic Characteristics of the Subjects

Age range	17-72 months (48.52±13.44 months)	
Number of children per family	1 to 5 (1.91±0.81)	
	N	**%**
Sex (males)	122	61.0
Education		
Kindergarten	53	26.5
Nursery school	20	10.0
Special education	6	3.0
The only child in the family	65	32.5
First-time presentation in a mental health professional (child psychiatrist or a psychologist)	190	95.0
Divorced parents	7	3.5
Large family with at least one grandparent	52	26.0
Mothers		
Age range	20-44 years (30.80±5.13 years)	
Education	**N**	**%**
Primary education	100	50.0
High school	60	30.0
University	36	18.0
Illiterate	4	2.0
Fathers		
Age range	20-52 years (35.31±5.64 years)	
Education	**N**	**%**
Primary education	81	40.5
High school	71	36.5
University	48	24.0

Table 2. Clinical Characteristics of the Subjects

Main Complaints/Concerns or Reasons for Referral		
Category	**N**	**%**
Behavioral	137	68.5
Emotional/adaptive	98	49.0
Developmental	74	37.0
Others	105	52.5
DSM-IV Psychiatric Diagnoses		
Externalizing Disorders	**N**	**%**
ADHD	54	27.0
ODD	21	10.5
Developmental Disorders		
Language & Speech disorders	34	17.0
Delay in expressive language	18	
Stuttering	12	
Articulation disorder	4	
Mental retardation	18	9.0
Autism spectrum disorders	11	5.5
Anxiety Disorders		
Specific phobia	15	7.5
Separation anxiety disorder	14	7.0
Social phobia	12	6.0
Obsessive-compulsive disorder	8	4.0
Generalized anxiety disorder	4	2.0
Posttraumatic stress disorder	3	1.5
Elimination Disorders		
Enuresis	13	6.5
Encopresis	7	3.5
Mood Disorders		
Depressive disorders	5	2.5
Bipolar disorder	2	1.0
Tic Disorders	7	3.5

(95% CI 1,6% to 30,1%; p=0.0309) and rates of comorbidity (95% CI 8.22% to 34.55%; p=0.0022). While ADHD was more frequent among boys than girls (95% CI 8.23% to 32.54; p=0.0018) there was no significant difference between boys and girls receiving diagnosis of ODD (95% CI -2.9% to 15.17%; p=0.2034).

DISCUSSION

Preschool psychopathology is a recently emerging area that may have important clinical (treatment and/or preventive) and research implications. It is now well recognized that preschool children can develop and suffer from a variety of behavioral and emotional disorders (1-12,18,19). The literature so far suggests that the DSM/ICD nosology, developmentally modified to preschoolers, can be used to assess psychopathology in preschool children (1,2,5-12). While studies conducted in a community sample (2,6-8) or in a pediatric setting (4,10) have reported relatively lower rates of psychopathology, studies conducted in psychiatric setting (11,12) have shown higher rates of psychopathology. For instance, while up to 27% of the sample received a diagnosis in studies conducted in community or pediatric settings (2,4,6-8,10), 93% of the sample received a diagnosis in a study conducted in a psychiatric setting (11). Similar rates of comorbidity up to 22, 43 and 68% have been reported in studies conducted in pediatric, community and psychiatric settings, respectively. Regarding individual disorders, rates of ADHD have been reported with up to 2, 12 and 86% in pediatric, community or psychiatric settings, respectively. Rates of mood disorders have been reported with up to 1, 8 and 43%, and rates of anxiety disorders up to 1, 8, and 28% in pediatric, community or psychiatric settings, respectively.

In the current study, 65% of the sample received at least one diagnosis and the rate of comorbidity was 52% among subjects who received at least one diagnosis. Rates of ADHD, mood disorders and anxiety disorders was 27, 3.5, and 16.5%, respectively. A literature review revealed that there are only few studies investigating prevalence and patterns of psychiatric disorders in preschool children in a psychiatric setting. Those studies were conducted by Wilens et al. (2002) in a specialty pediatric psychopharmacology clinic in a university hospital in the US (11) and by Equit et al. (2011) in a university hospital child psychiatry clinic in Germany (12). A comparison between the current study and the study by Wilens et al. (2002) revealed that, despite being conducted in a psychiatric setting, there are significant differences in the rates of psychiatric disorders reported. Compared to the current study, Wilens et al. (2002) reported a higher overall rate of psychopathology (65 versus 93%) and comorbidity (52 versus 68%) among study subjects. Rates of individual disorders have been reported as 27 vs. 86% for ADHD, 3.5 vs. 43% for mood and 16.5 vs. 28% for anxiety disorders in the current and Wilens et al.'s (2002) study, respectively. At this point, it may be important to note that the study by Wilens et al. (2002) was conducted at a specialty pediatric psychopharmacology clinic in a university hospital. It is possible that preschool children with significant impairment and/or multiple psychiatric disorders were referred to a faculty pediatric psychopharmacology clinic in Wilens et al.'s study. In the US, non-psychiatrist clinicians (such as family physicians, pediatricians, and clinical psychologists) may provide primary mental health services. These non-psychiatrist clinicians may manage simple and uncomplicated cases, while referring more complicated cases to child psychiatrists or faculty clinics. Therefore, it is possible that a kind of ascertainment bias may have contributed to high rates of psychopathology in Wilens et al.'s study (11). The current study was conducted at a state hospital child psychiatry outpatient clinic in Trabzon, Turkey. Trabzon is located in the Black Sea region of Turkey, and there has been a child psychiatrist in this city for the last several years. This clinic is a primary mental health service, and parents may come to the clinic to ask even for a simple consultation, such as how to bring up their child. Therefore, subjects' characteristics may have differed between the current and Wilens et al.'s studies.

CONCLUSION AND LIMITATIONS

Findings of this study suggest that preschool children presenting to psychiatry clinics may have high rates of psychopathology and comorbidity that may be a source of concern for the subjects and parents. Given the evidence that early recognition and intervention is critical, health professionals working with very young children should be familiar with major psychiatric/developmental disorders affecting this special population. Psychopathology in preschool children can be assessed using structured instruments such as K-SADS. This study is one of the few clinical studies using K-SADS to investigate psychopathology in preschoolers and may promote further application of this instrument in preschoolers. Prevalence rates and comorbidity of psychiatric disorders among preschoolers may vary considerably across different countries and study methodology.

This study has several limitations that should be addressed. The semi-structured diagnostic instrument used (K-SADS-PL) was not originally developed for this age group. However, there is no other instrument available for this age group in Turkey, and the instrument used in this study has also been applied in several previous studies reporting that K-SADS is a reliable instrument to evaluate DSM-IV psychiatric disorders in preschoolers (2,11). Lack of a control group in comparing prevalence rates of psychopathology was another limitation.

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