The analysis of child abuse and neglect cases assessed by a multidisciplinary study group between 2005–2008

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SUMMARY: Foto-Özdemir D, Özmert E, Balseven-Odabaşı A, Evinç ŞG, Tekşam Ö, Gökler B, Yalçın S, Kanbur N, Tümer AR, Derman O, Atik H, Karadağ F, Yurdakök K, Kale G. The analysis of child abuse and neglect cases assessed by a multidisciplinary study group between 2005–2008. Turk J Pediatr 2012; 54: 333-343.

This study aimed to evaluate the diagnosis, treatment and follow-up of child abuse and neglect (CAN) cases. Subjects were 102 cases that were clinically assessed by the multidisciplinary hospital team. Early and late childhood cases (according to the age at first abuse) were compared by means of characteristics of abuse. Among the 102 subjects, 64 were female and 38 were male (mean age: 8.68 years). Being abused by someone within the family was found to be significantly higher in preschool children compared to children in late childhood. 27.5% (n: 28) of the cases concomitantly had low socioeconomic and educational level and high parental psychological problems and 64.8% had psychiatric problems. A limited number of studies have compared characteristics of early and late childhood abuse considering the age of onset of maltreatment. Consistent with the literature, our study showed that early age of onset of maltreatment is a poor prognostic factor in many ways.

Key words: child abuse, neglect, early childhood, multidisciplinary team.

It has been reported that the increased prevalence of child abuse and neglect (CAN) has led to increased pressure on child welfare professionals to act promptly[1]. CAN is a complex problem that requires the involvement of multiple professions and community resources.

In the evaluation of children for suspected abuse, history from the parents and child, a physical examination, appropriate laboratory tests, data from other professionals who know the child and family, and careful documentation of the findings should be included. This evaluation is often conducted by a multidisciplinary team that consists of pediatricians, child psychiatrists, forensic medicine specialists, and social workers. Depending on the needs of the case, the team could be expanded to include othopedics, neurosurgery, obstetrics and gynecology, child surgery specialists, and nurses[2].

Today, increasing numbers of abuse and neglect cases may result in injury and death. These cases mostly admit to child emergency departments, but due to the lack of education of health professionals, many cases are missed or underdiagnosed based on the provided limited patient history. Among those cases who are either not diagnosed or do not receive appropriate management, 35% are severely re-traumatized and 5-10% die. CAN may result in convulsions, hydrocephalus, ataxia, mental retardation, learning disabilities, running away from home, criminal tendency, insecure and atypical attachment patterns, impaired peer relationships, involving either increased aggression or social withdrawal, academic underachievement, alcohol and other substance abuse, violence- directed antisocial personality conduct disorder, attention-deficit hyperactivity disorder, oppositional disorder, posttraumatic stress disorder, depression, and suicide[3,4]. Thus,

timely diagnosis and appropriate management of CAN are essential.

Studies indicate that younger children are at greater risk for abuse than older children. Abuse-related deaths in infants are commonly due to battered child syndrome, blunt trauma or suffocation; in children 1-4 years of age, blunt trauma, battered child syndrome, suffocation, and neglect; and in children older than 4 years, blunt trauma, battered child syndrome, suffocation, and intoxications[5]. Presence of multiple risk factors in the majority of cases is an important finding in this series[6-10].

The age of onset of CAN is reported in the literature to be a predictor of later psychopathology in childhood and/or adolescence. Bolger et al.[11] demonstrated that children who were abused at an earlier age had lower levels of self-esteem. Keiley et al.[12] found that the earlier children experienced physical maltreatment the more likely they experienced adjustment problems in adolescence. In addition, another prospective study also indicated that an earlier age at the first report of maltreatment predicted higher levels of anxiety years later[13] and poorer daily living skills[14]. Based on these findings, it can be suggested that an earlier age of onset of abuse will be associated with more psychological difficulties in adulthood[11-15].

It is of great importance to detect and clinically assess the children, who are exposed to either sexual, physical, emotional abuse and/or neglect or who are at high risk for child maltreatment, in an appropriate way without re-traumatization during the judicial process[3,4,16]. In recent years, several clinics in Turkey began assessing these cases with multidisciplinary teams as in many other countries. Hacettepe University Faculty of Medicine is one of the pioneering clinics regarding a multidisciplinary approach for CAN cases. The aim of this study was to evaluate the diagnosis, treatment and follow-up of the abuse and neglect cases assessed by Hacettepe University Faculty of Medicine's "Child Abuse and Neglect Assessment, Research and Treatment Study Group" and to discuss the risk factors according to the age at first abuse.

Material and Methods

This study included cases admitted to Hacettepe University İhsan Doğramacı Children's Hospital due to abuse, patients sent for expert evaluation by the court after the legal procedure had started, and cases diagnosed to be abuse and neglect during the follow-up for other medical reasons during the period 2005-2008. These patients were diagnosed by the CAN Assessment, Research and Treatment Study Group as abused or neglected. Diagnosis, work-up, treatment, and follow-up of these cases were planned in the monthly and intermittent meetings with regular attendance of members from the Department of Child and Adolescent Psychiatry, Department of Pediatrics (Divisions of Social Pediatrics, Child Emergency Care, Adolescent Medicine), Department of Forensic Medicine, social workers, and child development specialists, and with attendance as needed of the Departments of Child Surgery, Orthopedics, Neurosurgery, Dermatology, and Obstetrics and Gynecology. Patients assessed and discussed but not clinically diagnosed as CAN in the multidiciplinary meetings were excluded from the study.

Subjects were 102 cases that were clinically assessed by the multidisciplinary working group. Gender and age of the maltreated child, type and frequency of the maltreatment, age of the abuser, abuser's relation to the child, risk factors, severity of the abuse, collaborating institutions, and the outcomes of the follow-up were the parameters to be analyzed. Findings of this study were obtained from the standardized forms filled out for each suspected case following joint or sometimes separate assessment of cases by child psychiatrists, pediatricians and forensic medicine specialists.

Severity of abuse was classified as mild, moderate and severe. CAN was described as "severe" if it was continuous and considered to be the cause of any physical or psychological handicap; "moderate" if it was continuous but caused no documented residual handicaps; and "mild" if it was occasional with no major injury or handicap[17,18]. Parental education level based on length of school education was classified as low (less than 5 years), medium (5-12 years) or high (more than 12 years). Family's income level was classified as low (less than 1000 TL [0-465 Euro]), medium (1000-3000 TL [465-1400 Euro]) or high (above 3000 TL [1400 Euro]).

According to the age at first abuse, cases were divided into two groups as early (0-6 years) or late childhood (7-17 years). These groups were evaluated regarding sociodemographic characteristics, type, source, frequency, and duration of abuse, relationship with the abuser, existence of psychopathology in parents, family characteristics, diagnoses of mental disorders in the children, and any difficulties in the follow-up. Abuse cases and their families were followed by the healthcare personnel from the Child and Adolescent Psychiatry Department. Diagnoses were made using the diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders 4th edition (DSM-IV)[19].

All results were analyzed using the Statistical Package for the Social Sciences (SPSS) version 17. Comparison between early and late childhood victims was performed by Student's t-test, and chi-square was used to compare categorical variables. $p<0.05$ was accepted as statistically significant.

Results

Among the 102 subjects, 64 (62.7%) were female and 38 (37.3%) were male, with a mean age of 8.68±5.0 years. Sociodemographic characteristics of all CAN cases and early and late childhood cases are summarized in Table I.

Early and late childhood cases were compared by means of the relationship with the abuser, the type, frequency and duration of the abuse, and any difficulties in the follow-up. The distribution of the types of abuse and abuse characteristics are given in Table II. There were no significant differences between the two groups of patients with respect to gender and duration of the abuse. There was no statistically significant difference between types of abuse seen in early and late childhood, but vaginal and anal intercourse was significantly rare in early childhood when compared to late childhood (Table II). According to abusers, being abused by someone within the family in early childhood was found to be statistically significantly more common. There was no statistically significant difference between the chronicity of abuse (Table II).

In this series, according to abuse type, the most frequent risk factors associated with CAN are displayed in Table III. In these cases, the youngest average age was determined in pure emotional neglect and abuse (2.8±1.9 years), whereas the oldest average age was determined in pure sexual abuse (7.4±3.6 years). While incidence of the abuser being a member of the family was significantly high in physical abuse and emotional neglect/abuse, incidence of the abuser being a non-member of the family was significantly high in sexual abuse ($x^2=31.6$; df=8; $p=0.000$). In physical abuse, parental psychological problems (66.6%; n: 14), marital problems (52.4%; n: 11) and domestic violence (57.1%; n: 12) were the most frequent risk factors. Parental psychological problems ($x^2=10.8$; df=4; $p=0.029$) and domestic violence ($x^2=18.6$; df=4; $p=0.001$) were found significantly high solely for physical abuse. The three risk factors of low socioeconomic level, low educational level and parental psychological problems were present concomitantly in 27.5% (n: 28) of the cases. These three risk factors were present concomitantly in 37.7% (n: 20) of the cases in early childhood and in 15.1% (n: 5) of the cases in late childhood. The risk factors in early and late childhood, respectively, were parental psychological problems (49.1%; 38.8%), marital problems (52.8%; 40.8%), domestic violence (45.3%; 32.7%), parental maltreatment during childhood (30.2%; 18.4%), parental unemployment (16.9%; 18.4%), and parental alcohol dependency (13.2%; 20.4%). When all the risk factors were compared, no significant difference was found in risk factors between children abused in early versus late childhood ($p>0.05$).

History of psychiatric disorders was positive in 21 (39.6%) of the mothers and 17 (32.1%) of the fathers in early childhood and in 11 (22.4%) of the mothers and 12 (24.4%) of the fathers in late childhood. Parental psychiatric disorders were depression, impulse control disorders, alcohol and substance abuse, antisocial personality features, posttraumatic stress disorder, suicide attempt, panic disorder, obsessive-compulsive disorder, delusional disorder, and bipolar mood disorder. The most common psychiatric disorder was depression (n: 10; 18.9%) in mothers and impulse control disorders (n: 11; 20.8%) in fathers of children abused in early childhood. In late childhood abused children, the most common psychiatric disorder was depression (n: 5; 10.2%) in mothers and alcohol abuse (n: 5; 10.1%) in fathers.

Table I. Sociodemographic Features of CAN Cases

	All cases n=102 (%)	Late childhood (age 7-17 years) n=49 (%)	Early childhood (age 0-6 years) n=53 (%)
		Mean ± SD	
Mean age at referral	8.6 ± 5.0	12 ±3.2	5.1±3.7
Gender			
Female	64 (62.7)	34 (69.4)	30 (56.6)
Male	38 (37.3)	15 (30.6)	23 (43.4)
Family features			
Nuclear	65 (69.2)	29 (59.2)	36 (67.9)
Extended	6 (4.9)	4 (8.2)	2 (3.8)
Divorced	23 (18.6)	13 (26.5)	10 (18.8)
Death	6 (5.9)	3 (6.1)	3 (5.7)
Step-parent	2 (2.4)	0 (0)	2 (3.8)
Sibling presence	91 (89.2)	48 (97.9)	43 (81.1)
Father		Mean ± SD	
Mean age	38.9 ± 9.5 years	38.9 ± 9.5 years	35.7 ± 9.5 years
Education	8.2 ± 4.3 years	8.2 ± 4.5 years	8.2 ± 4.3 years
Occupational status			
Working	55 (67.9)	21 (60.0)	34 (73.9)
Retired	8 (9.9)	5 (14.3)	3 (6.5)
Unemployed	18 (22.2)	9 (25.7)	9 (19.6)
Mother		Mean ± SD	
Mean age	38.4 ± 6.3 years	38.9 ± 9.5 years	30.9 ± 8.6 years
Education	7.4 ± 4.6 years	7.1 ± 4.4 years	7.4 ± 4.5 years
Occupational status			
Housewife	73 (71.5)	37 (75.5)	36 (67.9)
Working	28 (27.5)	12 (24.4)	16 (30.3)
Retired	1 (1.0)	0 (0.0)	1 (1.9)
Marital relationships			
No problem	29 (37.7)	15 (42.9)	14 (33.3)
Conflictual	27 (35.1)	9 (25.7)	18 (42.9)
Distanced, detached or abusive relations	21 (27.3)	11 (31.4)	10 (23.8)
Family's income level			
Low	55 (63.2)	26 (63.4)	29 (63.1)
Medium	31 (35.6)	14 (34.2)	17 (36.9)
High	1 (1.2)	1 (2.4)	0 (0)

* Cases with missing data were not included in the statistics.
$p>0.05$ for all comparisons.

When classified according to the severity of abuse, 63.7% (n: 65) of the abuse was severe, 30.4% (n: 31) was moderate and 5.9% (n: 6) was mild. Types of abuse in severe cases included incest in 15 patients, severe and persistent emotional abuse, neglect and psychopathology in 12 patients, severe and persistent sexual abuse and psychopathology in 23 patients, severe physical abuse in 9 patients, shaken baby syndrome in 2 patients, and Munchausen by proxy in 4 patients. Clinical and laboratory findings in the severe abuse group are displayed in Table IV. Three patients in this group died after abuse. The first patient was a 9-month-old baby who presented with a history of falling from 50 cm; he had multiple fractures and intracranial hemorrhage, and was admitted with unconsciousness. The second patient was a 6-month-old unconscious baby who admitted with the history of a bag

Table II. The Distribution of the Types of Abuse and CAN Characteristics of the Abuse Group as a Whole and in Early and Late Childhood

Abuse characteristics	All cases n=102 (%)	Late childhood (age 7-17 years) n=49 (%)	Early childhood (age 0-6 years) n=53 (%)
		Mean ± SD	
Age of first abuse	6. 8±4.3	10.5±2.8	3.5±1.8
Duration of abuse	17.3 (0-144 months)	15.9 (0-96 months)	18.6 (0-144 months)
Types of abuse			
Pure sexual abuse	52 (51)	28 (57.1)	24 (45.3)
Pure physical abuse	21 (21)	10 (20.3)	11 (20.8)
Emotional abuse and neglect	9 (8.8)	1 (2.2)	8 (15.0)
Mixed abuse	15 (15.3)	8 (16.3)	7 (13.2)
Munchausen by proxy	5 (3.9)	2 (4.1)	3 (5.7)
Duration of abuse			
Only once	34 (33.3)	18 (36.7)	16 (30.2)
1–6 months	27 (26.5)	12 (24.5)	15 (28.3)
6–12 months	7 (6.9)	4 (8.2)	3 (5.7)
More than one year	34 (33.3)	15 (30.6)	19 (35.8)
Severity of sexual abuse			
No penetration	22 (32.9)	7 (19.5)	15 (48.4)
Penetration	45 (67.1)	29 (80.5)	16 (51.6)*
Vaginal intercourse	28 (62.2)	18 (36.7)	10 (18.9)
Anal intercourse	17 (37.8)	11 (22.4)	6 (11.3)
Presence of violence	33 (32.4)	15 (30.6)	18 (33.9)
Presence of threat	33 (32.4)	19 (38.8)	14 (26.4)
Relation to perpetrator			
A family member (mother and/or father)	52 (51.0)	18 (36.7)	34 (64.2)**
Non-member of the family	42 (41.2)	28 (57.1)	14 (26.4)**
Member and non-member of the family	8 (7.8)	3 (6.2)	5 (9.4)
The number of abusers:			
One	69 (67.6)	33 (67.3)	36 (67.9)
More than one	33 (32.4)	16 (32.7)	17 (32.1)

* p: 0.025
** p: 0.003

falling on him. The third patient, who was diagnosed as Munchausen syndrome by proxy, was an asphyctic baby who was admitted to the hospital with attacks of apnea due to an unknown cause; during follow-up, the attacks were detected as being caused by his mother. Among patients with severe abuse, severe psychopathologies that developed after abuse were abasia due to conversion disorder (n: 3), severe suicide attempts (n: 3), posttraumatic stress disorder (n: 7), gender identity disorders (n: 3), and frequent and inappropriate sexual relations (n: 9).

Distribution of psychiatric disorders of CAN cases during the follow-up are listed in Table V. Incidence of the diagnosed cases, and of the diagnosed cases, those having two or more psychiatric problems were 66 (64.8%) and 40 (39.2%), respectively. As we compared the presence of psychopathology and multiple mental diagnoses between children abused in early childhood or later, no statistically significant difference was found. Medication was given in 43 (42.2%) of all cases due to psychiatric problems. Individual psychotherapy was applied to 48% (n: 49) of cases. Family therapy was performed in only 53.3% (n: 54) of these children. After disclosure of the children, with the aim of protection, environmental change was suggested to 28.9% of families. During the treatment phase after abuse, changing the school was recommended

Table III. The Most Frequent Risk Factors Associated with CAN according to the Type of Abuse

	All cases n=102 (%)	Pure sexual abuse n=52 (%)	Pure physical abuse n=21 (%)	Emotional abuse and neglect n= 9 (%)	Mixed abuse n=15 (%)	Munchausen by proxy n=5 (%)
Age of first abuse	6. 8±4.3	7.4±3.6	6.2±5.3	2.8±1.9	6.5±4.6	5.4±3.1
Mean age at referral	8.6 ± 5.0	9.3±4.3	9.1±5.8	4.1±3.7	9.0±5.8	8.1±5.2
Female	64(62.7)	35(67.3)	11(52.4)	7(77.8)	9(60)	2(40)
Male	38(37.3)	17(32.7)	10(47.6)	2(22.2)	6(40)	3(60)
Relation to perpetrator						
A family member (mother and/or father)	52(51)	18(34.6)	15(71.4)*	9(100)	7(46.7)	4(80)
Non-member of the family	42(41.2)	31(59.6)*	6(28.6)	-	4(26.7)	-
Member and non-member of the family	8(7.8)	3(5.8)	-	-	4(26.7)	1(20)
Parental psychological problems (mother or/and father)	45(44.1)	16(30.7)	14(66.6)*	4(44.4)	8(53.3)	3(60)
Low socioeconomic level	55(53.9)	23(44.2)	12(57)	8(88.9)	11(73.3)	1(20)
Marital problems	48(47.1)	20(38.4)	11(52.4)	3(33.3)	9(60)	5(100)
Divorce	23(22.5)	12(23)	6(28.5)	1(11)	2(13.3)	2(40)
Parental maltreatment during childhood	25(24.5)	9(17.3)	7(33.3)	3(33.3)	6(40)	-
Parental alcohol dependency	17(16.7)	7(13.5)	4(19)	1(11)	4(26.6)	1(20)
Domestic violence	40(39.2)	11(21)	12(57.1)*	3(33.3)	11(73.3)	3(60)

* $p<0.05$

to 14.4% (n: 15) of the cases. 52% of the children dropped out during the psychiatric evaluation process.

In this case series, 14 cases (13.5%) of abuse in which abusers were within families were handled by our team with family follow-up and parental skills education. This group included physical abuse, emotional abuse and neglect within the family. Legal process was initiated in 62.7% (n: 64) of the cases, and among them, 14 cases (21.8%) were placed with the Social Services and Child Protection Agency. In 13.5% (n: 15) of the cases, during follow-up of the child, he/she was removed from the abusive environment and parental interventions were applied. Nine children (8.7%) left the study during the evaluation phase.

After discussion of the diagnosed abuse and/or neglect patients by the CAN Assessment, Research and Treatment Study Group, decisions were made regarding the follow-up. To limit the effect of this process on the child to the extent possible and to prevent recurrence of abuse, we worked in cooperation with social workers, Children's Rights Unit of the Bar Association, the Social Services and Child Protection Agency, children's police, women's shelters, and child and family courts, if needed. There were significant differences between early and late childhood abuse cases with respect to follow-up ($x^2=18.58$; df=3; $p<0.01$). 14.3% (n: 7) of older children could not be followed up, while in younger children, this rate increased to 41.1% (n: 23). The forensic procedure has already been initiated for 9 of these children whose medical follow-up was not done; for 12 cases, the forensic process was started by our hospital; and for 9 cases, the forensic process could not be started. This "without follow-up" group was considered to be at high risk and group characteristics were evaluated. Most of the cases were under 3 years of age (n: 13, 56%), abusers were generally someone within the family (n: 16, 69%), and severe physical/emotional abuse and neglect (n: 16, 69%) and intense conflicts within families (n: 11, 47%) were present. As seen in Table IV, none of the patients could be followed up. All of the cases except one were early childhood abuse, and all of these cases were abused by someone within the family.

Table IV. Clinical and Laboratory Findings in the Severe Abuse Group

	N	Age of abuse
Fracture of the humerus	(n: 1)	2.5 years old
Fracture of the clavicle	(n: 1)	4 years old
Shaken baby syndrome (unconsciousness, convulsions, subdural hematoma, subarachnoid hematoma)	(n: 2)	6 and 9 mos. old
Amputation after severe burns	(n: 2)	2 and 4 years old
Exitus after suffocation	(n: 2)	2 years old
Munchausen syndrome by proxy (recurrent and undiagnosed hypoglycemic attacks)	(n: 1)⋆	10 years old
Fall from height (subdural hematoma, unconsciousness)	(n: 1)	18 mos. old
Unconscious	(n: 3)	6, 9 and 18 mos. old

All except one of the 13 cases was early childhood abuse.

⋆ late childhood (age 7-17 years)

Discussion

In our country, efforts have been taken to increase the number of multidisciplinary teams maintaining a multidisciplinary approach to CAN. The increase in the number and functions of these centers would raise the level of sensitivity and awareness regarding CAN and encourage the multidimensional approach. It is very important that sexually, physically or emotionally abused or neglected children be detected, evaluated and handled appropriately to prevent the development of traumatization during the medical or legal procedure. Evaluations of such cases are accomplished by multidisciplinary teams in some centers in Turkey and some other countries. A multidisciplinary approach to this issue started in Hacettepe University İhsan Doğramacı Children's Hospital in 2003. The team included child and adolescent psychiatrists, pediatricians including pediatric emergency physicians, adolescent specialists, social pediatricians, forensic medicine specialists, psychologists, and social workers. In this study, patients evaluated by our multidisciplinary team in a three-year period were analyzed and their results evaluated.

Very few studies have examined how the characteristics of the abuse experience affect subsequent outcomes of child maltreatment.

Table V. Diagnostic Distribution of CAN Cases and Comparison of the Presence of Psychopathology in Early and Late Childhood

Psychiatric disorders	All cases n=102 (%)	Late childhood n=49 (%)	Early childhood n=53 (%)
Diagnosed cases	66 (64.8)	32 (65.3)	37 (69.8)
Two and more mental illnesses	40 (39.2)	20 (40.8)	29 (54.7)
Depression	27 (26.4)	15(30.6)	12(22.6)
Acute stress disorder	25 (24.5)	12(24.5)	13(24.5)
Adjustment problems	13 (12.7)	3 (6.1)	10(18.9)
Anxiety disorder, Separation anxiety disorder	11 (10.8)	3 (6.1)	8 (15.1)
Attention-deficit hyperactivity disorder	11 (10.8)	6 (12.3)	5 (9.4)
Conduct disorder	8 (7.8)	4 (8.2)	4 (7.6)
Encopresis	4 (3.9)	1 (2.0)	3 (5.7)
Reactive attachment disorder	3 (2.9)	0 (0.0)	3 (5.7)
Conversion disorder	3 (2.9)	2 (4.1)	1 (1.9)
Dissociative disorder	3 (2.9)	0 (0.0)	3 (5.7)
Sexual identity disorder	3 (2.9)	2 (4.1)	1 (1.9)
Oppositional deficient disorder	3 (2.9)	0 (0.0)	3 (5.7)
Suicide attempts	3 (2.9)	3 (6.1)	0 (0.0)
Mental retardation	1 (1.0)	1 (2.0)	0 (0.0)

In these studies, age of onset of maltreatment was accepted as a very important characteristic feature. It has been suggested that the age and/or developmental period at which a child is maltreated may play an important role in their future psychological functioning[15,20].

In accordance with the literature, it was found in this study that girls in both the whole group and the early childhood group were abused more than boys. Girls are reported to be abused more than boys in the literature, although the ratio varies among studies (3-10 times)[21,22]. In this study, when evaluated according to type of abuse, while sexual abuse in girls was twice that seen in boys, like the findings of the studies by Çengel-Kültür et al.[23] and Cappellri et al.[6], for the physical abuse, this gender difference did not exist.

In our study group, sexual abuse was less common in the early childhood period, while emotional abuse and neglect were more common in this group. This is consistent with the literature and with our hypothesis because children at these ages are more dependent on their caregivers compared to elder children[22]. The lower frequency of sexual abuse in that age group, on the other hand, might be related with the protection of the child by the family against extrafamilial perpetrators[22].

In parallel with the literature, this study also showed that the abuser is most often a parent or a close relative. In the comparison of abuse in early and late childhood according to abusers, being abused by someone within the family in early childhood was found to be statistically significantly more common. In the literature, abusers of children particularly in the early childhood period are reported to be mostly family members or close relatives[5,21]. In this case series, when the abuser was evaluated according to the type of abuse, while almost all of the cases of physical abuse, emotional abuse and neglect were perpetrated by a member of the family, sexual abuse was perpetrated frequently by a non-member of the family, and this is consistent with the literature[24,25].

In this case series, half of the children came from low income and low educational level families and more than half of these patients had familial risk factors for CAN. Low socioeconomic level, low educational level and parental psychological problems were the risk factors presented simultaneously by 27.5% (n: 28) of the cases. Consistent with the child abuse literature, more than one risk factor was determined. In this case series, a family member as the abuser, frequent injuries or death due to maltreatment, presentation to the clinic as an accident, and incomplete follow-up were suggested as the long-term poor prognostic factors, especially in early-onset maltreatment cases. In this study, half of the children being in early childhood and the high rates of domestic violence, marital conflict, parental maltreatment during childhood, and unemployment suggest that there were many risk factors in this group. It is already known that these risk factors affect prognosis adversely in the long term. Some studies reported that young parental age and low educational levels are frequently related to parental abuse of children[16]. Being abused or being a witness to violence during childhood is also an important risk factor for CAN[10]. In the presence of no social support, stressful life events increase the risk of maltreatment reports[26,27].

The most common risk factor for CAN in this study was presence of parental psychopathology (44.1%, n: 45). In accordance with the literature, it was found that among the children abused in early childhood, the most common psychiatric disorder was depression in mothers and impulse control disorders in fathers[23,28]. Windham et al.[28] focused on the risk of maltreatment in the first three years of life and its association with maternal depression, partner violence, and child characteristics. Many studies have reported that children of mothers with depressive symptoms are at risk for mental illness[28,29]. Depressed mothers behave more aggressively and less attentively toward their children's needs compared with non-depressed mothers. Studies involved with familial psychopathology show that these parents have anger management problems due to difficulties in emotion regulation and impulse control[13]. There are higher rates of depression, drug abuse and posttraumatic stress disorder among parents who physically abuse their children[14]. Consistent with the literature, this study also showed that when compared with other types of abuse, parents of the children exposed to physical abuse had more psychiatric disorders, and marital problems and domestic violence seemed to associate.

All of the cases were evaluated according to DSM-IV criteria. 64.8% of the patients had psychiatric problems and 39.2% of the patients had two or more psychiatric problems. Researchers suggest that children who experienced multiple types of abuse and neglect have increased internalizing problems. In the literature, the age of onset of abuse is reported to be a predictor of later psychopathology in childhood and/or adolescence. Based on many studies, it can be suggested that an earlier age of onset of abuse will be associated with more psychological difficulties in adulthood[11-15]. However, children's behavioral problems or developmental retardation between the ages of 3 and 5 could not be explained by neglect and/or abuse due to the difficulty in assessment. CAN, particularly psychological neglect, should be identified and addressed as early as possible. Maternal depression should also be screened by pediatricians[30] because depression in mothers may result in their under involvement[23]. It is more likely that an abused child will fail to achieve important developmental milestones, such as the development of self-regulation, and this in turn will lead to a greater likelihood of future psychopathology and emotional distress. The manifestations of maltreatment may vary depending on the successful or unsuccessful negotiation of stage-specific tasks at different developmental levels[3]. However, younger children may be buffered against many of the phenomena that would produce distress in older children.

Unlike the literature, as we compared the presence of psychopathology and multiple mental illness diagnoses between abused children in early and late childhood, although abused children in early childhood had more multiple mental illness diagnoses (n: 29; 54.7%), no statistically significant difference was found. This may be due to the presence of many variables besides age taking a role in the occurrence of post-abuse mental disorders. Coping styles of the child, previous traumas, family characteristics (domestic violence, marital conflicts, substance or alcohol use of parents, social isolation of the family, divorce, single-parent families, etc.), social support systems, characteristics of abuse (persistence, involvement of violence and penetration to body, or threats, etc.), familiarity of abuser, handling of the abuse by the family (beginning from initial awareness of the event and time needed to reach professional medical help) are among the many variables addressed in the literature[31,32].

In the comparison of abuse in early and late childhood, there were significant differences between early and late childhood with respect to follow-up. Consistent with the child abuse literature, 14.3% of older children could not be followed up, and this rate increased to 41.1% in younger children. This "without follow-up" group was considered to be at high risk, and group characteristics were evaluated. Most of the cases were under three years of age (n: 13, 56%), abusers were generally someone within the family, and severe physical/emotional abuse and neglect and intense conflicts within families were present.

In this study, characteristics of 13 cases (12.7%, Table IV) who were not followed up and considered as a high-risk group were very striking. Injuries inconsistent with history and conflicting histories gathered from the family members suggested a high probability of abuse and also a higher risk of dropout of these cases during the evaluation phase. In addition, vaginal and anal intercourse was significantly rare in early childhood sexual abuse when compared with late childhood. As a result, less physical evidence was found in the early childhood period. These results seem to be consistent with the literature. Working fast and obtaining information carefully are essential in these cases. This study also suggests that researchers should be very careful when faced with children presenting to the emergency department with injuries and should evaluate their risk factors meticulously.

In conclusion, child abuse and neglect (CAN) is a common public health problem that has varying dimensions and severity. It is an important cause of morbidity in children and may even be a cause of childhood mortality in severe cases. False reports, inadequate knowledge, and varying cultural and traditional patterns[33] may mask many abuse cases. Early childhood abuse is the most difficult type of trauma to treat because abusers are generally caregivers, it tends to recur, physicians' awareness about this problem is low, and it has a great similarity with home accidents. Although abused children may present with

diagnostic physical and mental symptoms, they sometimes present with non-specific complaints. Educating doctors who care for children on obtaining knowledge about and protection against CAN may ensure early detection of the problem and minimize the related sequelae. The number of undetected and untreated abuse cases is much higher than we know or realize.

Physicians' awareness and knowledge about this topic and their motivation are essential for the diagnosis of child abuse. Teams evaluating and following CAN cases are limited in number in the hospitals of our country. Existing teams are currently in the phases of establishment and development. There is an immediate need for a multidisciplinary teamwork on this problem and the composition of algorithms. A multidisciplinary approach should be provided to evaluate, treat and follow probable abuse cases. In recent years, growing public attention to CAN and formation of protection units in hospitals will be important developments for our country.

REFERENCES

1. Lalayants M, Epstein I. Evaluating multidisciplinary child abuse and neglect teams: a research agenda. Child Welfare 2005; 84: 433-458.
2. Leventhal JM. Sexual abuse of children: continuing challenges for the new millennium. Acta Paediatr 2000; 89: 268-271.
3. Cicchetti D, Toth SL. A developmental psychopathology perspective on child abuse and neglect. J Am Acad Child Adolesc Psychiatry 1995; 34: 541–565.
4. Bernet W. Practice parameters for the forensic evaluation of children and adolescents who may have been physically or sexually abused. J Am Acad Child Adolesc Psychiatry 1997; 36: 37-56.
5. Rimsza ME, Schackner RA, Bowen KA, et al. Can child deaths be prevented? The Arizona Child Fatality Review Program experience. Pediatrics 2002; 110: 110-111.
6. Cappelleri, JC, Eckenrode J, Powers JL. The epidemiology of child abuse: findings from the second National Incidence and Prevalence Study of Child Abuse and Neglect. Am J Public Health 1993; 83: 1622–1625.
7. Garcia VF, Gotschall CS, Eichelberger MR, et al. Rib fractures in children: a marker of severe trauma. J Trauma 1990; 30: 695-700.
8. Gutterman NB. Early prevention of physical abuse and neglect: existing evidence and future directions. Child Maltreat 1997; 2: 12–34.
9. Johnson CF. Abuse and neglect of children. In: Behrman RE, Kliegman RM, Arvin AM (eds). Nelson Textbook of Pediatrics. Philadelphia, PA: WB Saunders Company; 1996: 112–121.
10. Leventhal JM. Sexual abuse of children. In: Hoekelman RA, Friedman SB, Nelson NM, Seidel HM, Weitzman ML (eds). Primary Pediatric Care. Philadelphia, PA: Mosby; 1997: 651–655.
11. Bolger KE, Patterson CJ, Kupersmidt JB. Peer relationships and self-esteem among children who have been maltreated. Child Dev 1998; 69: 1171–1197.
12. Keiley MK, Howe TR, Dodge KA, et al. The timing of child physical maltreatment: a cross-domain growth analysis of impact on adolescent externalizing and internalizing problems. Dev Psychopathol 2001; 13: 891–912.
13. Kaplow JB, Dodge KA, Amaya-Jackson L, et al. Pathways to PTSD. Part II: Sexually abused children. Am J Psychiatry 2005; 162: 1305–1310.
14. English DJ, Graham JC, Litrownik AJ, et al. Defining maltreatment chronicity: Are there differences in child outcomes? Child Abuse Negl 2005; 29: 575–595.
15. Manly JT, Kim JE, Rogosch FA, et al. Dimensions of child maltreatment and children's adjustment: contributions of developmental timing and subtype. Dev Psychopathol 2001; 13: 759–782.
16. Ağırtan CA, Akar T, Akbaş S, et al. Establishment of interdisciplinary child protection teams in Turkey 2002-2006: identifying the strongest link can make a difference. Child Abuse Negl 2009; 33: 247-255.
17. Smith SM, Hanson R. 134 battered children: a medical and psychological study. Br Med J 1974; 3: 666–670.
18. Oral R, Can D, Kaplan S, et al. Child abuse in Turkey: an experience in overcoming denial and a description of 50 cases. Child Abuse Negl 2001; 25: 279-290.
19. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders (4th ed). Washington, DC: American Psychiatric Association (APA); 1994.
20. Kaplow JB, Widom CS. Age of onset of child maltreatment predicts long-term mental health outcomes. J Abnormal Psychology 2007; 116: 176–187.
21. Jain AM. Emergency department evaluation of child abuse. Emerg Med Clin North Am 1999; 17: 575-593.
22. Sahin F, Cepik-Kuruoğlu A, Demirel B, et al. Six-year experience of a hospital-based child protection team in Turkey. Turk J Pediatr 2009; 51: 336-343.
23. Çengel-Kültür E, Çuhadaroğlu-Çetin F, Gökler B. Demographic and clinical features of child abuse and neglect cases. Turk J Pediatr 2007; 49: 256-262.
24. Glaser D. Emotional abuse and neglect (psychological maltreatment): a conceptual framework. Child Abuse Negl 2002; 26: 697-714.
25. Kaplan S. Physical abuse and neglect. In: Lewis M (ed). Child and Adolescent Psychiatry. A Comprehensive Textbook (2nd ed). Baltimore, MA: Williams & Wilkins; 1996: 1033-1041.
26. Kotch JB, Browne DC, Ringwalt CL, et al. Risk of child abuse or neglect in a cohort of low-income children. Child Abuse Negl 1995; 19: 1115-1130.
27. Dubowitz H, Kim J, Black MM, et al. Identifying children at high risk for a child maltreatment report. Child Abuse Negl 2011; 35: 96–104.

28. Windham AM, Rosenberg L, Fuddy L, et al. Risk of mother-reported child abuse in the first 3 years of life. Child Abuse Negl 2004; 28: 645-667.
29. Hien D, Cohen LR, Caldeira NA, et al. Depression and anger as risk factors underlying the relationship between maternal substance involvement and child abuse potential. Child Abuse Negl 2010; 34: 105–113.
30. Dubowitz H. Preventing child neglect and physical abuse: a role for pediatricians. Pediatr Rev 2002; 23: 191-196.
31. Wolfe DA. Child Abuse: Implications for Child Development and Psychopathology (2nd ed). Thousand Oaks, CA: Sage Publications; 1999: 35-57.
32. Everstine DS, Everstine L. Sexual Trauma in Children and Adolescents: Dynamics and Treatment. New York: Brunner/Mazell; 1989: 12-33.
33. Kutsal E, Pasli F, Isikli S, Sahin F, Yilmaz G, Beyazova U. Preliminary validation of the Child Abuse Potential Inventory in Turkey. J Interpers Violence 2011; 26: 2856-2865.