

# Parenting discipline styles and child psychopathology in a sample of Egyptian children with accidental ocular trauma: a case-control study

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## Objective

Ocular trauma is a serious problem in children and adolescents that can be troubling for them and their families. Psychosocial risk factors for eye trauma are understudied, especially in Arab and Egyptian populations. The current study aimed to evaluate the probable role of child psychopathology and parenting discipline styles in the predisposition for eye trauma in Egyptian children and adolescents.

## Methods

Forty patients aged 3–18 years with accidental eye trauma and 40 controls of the same age range were recruited. A validated Arabic version of the Child Behavior Check List (CBCL) and an Arabic translated and validated version of the conflict tactic scale-parent child version were applied to evaluate the sample.

## Results

After statistical adjustment for differences in socioeconomic status, youth with eye trauma showed higher rates of rule breaking behavior and attention deficit hyperactivity disorder (ADHD) as compared with the control group. Families of children with eye trauma reported a tendency to use less nonviolent discipline and more current and lifetime physical punishment as compared with the control group.

## Conclusions

Childhood behavioral disorders, such as ADHD, and parental tendency to use physical punishment as a pattern of discipline might predispose to serious accidental injuries, including eye trauma. Proper evaluation, diagnosis, and treatment for ADHD, together with community program that enhances nonviolent discipline techniques, will help in both primary and secondary prevention of ocular trauma.

## Keywords:

abuse, attention deficit hyperactivity disorder, children, eye, trauma

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## Introduction

Ocular trauma is an important, worldwide, preventable public health problem [1]. Various studies have reported that children constitute 20–50% of ocular injury admissions [2]. Ocular injuries in children can be devastating and may result in severe visual impairment, which can affect the future functioning of these children. Direct and indirect costs of ocular trauma constitute a huge financial burden [2], especially in developing countries, as the treatment of vision-related problems involves considerable costs [3].

Factors such as immature motor skills, carelessness, and uncontrolled emotions, which are inherited in young children, may be important in causing accidental injury and determining its outcome and prognosis [1]. It has been previously shown that children with hyperactive, impulsive, and risk-taking symptoms have increased risk for accidental injuries compared with healthy controls [4]. Previous studies have demonstrated that various injury types, including extremity fractures [5], traumatic dental injuries [6,7], and ear and nose foreign body

insertions [8], were related to attention deficit hyperactivity disorder (ADHD) symptoms. One of the few studies that investigated the relationship between childhood behavioral disorders and eye trauma reported an association between penetrating eye injuries and inattentiveness, hyperactivity, oppositional defiant disorder, and conduct disorder in children between 3 and 18 years of age [9].

Child abuse and neglect are universal and alarming problems. Child abuse consists of any act that results in, or presents, an imminent risk for serious physical harm (physical abuse), serious emotional harm (emotional abuse), or sexual abuse [10]. Child neglect is defined as the failure to provide needed, age-appropriate care, although financially able to do so. Physical abuse is defined as tissue damage or use of an instrument on any body part of the child [10].

Eye injuries may be present in up to 40% of pediatric abusive injury. Abuse should be suspected if a child has subconjunctival hemorrhage with no physiological reason or known accidental trauma involving compression of the

chest [11,12]. Although retinal hemorrhage is considered a principle finding of inflicted head trauma [11], there is no retinal sign that was unique to abusive injury [13].

Children are abused and neglected by their parents or other caregivers everywhere in the world. Although reliable data are extremely scarce, it is estimated that there were 57000 homicides among children under 15 years of age worldwide in 2000 [14]. Children below the age of 15 years are frequently victims of abuse or neglect that requires medical care and intervention by social services [14,15]. In a recent survey performed in Egypt, 60% of adults think that physical punishment is not necessary to raise/educate children; however, 91% of Egyptian children aged 2–14 years experienced some sort of violent discipline (psychological aggression and/or physical punishment) [15,16].

Few, if any, studies investigated the psychological and behavioral profile of Egyptian children presenting with traumatic eye injury. The current study aimed to shed light on the psychiatric symptoms that might contribute to the pathogenesis of eye trauma in those children. It also aimed to explore the potential role of child abuse as a precipitating factor for ocular trauma and subsequent visual impairment. We hope that our work will help in the development of prevention programs, and correction of the weak points in the treatment modalities to improve the visual outcome and prevent repetition of the trauma in the future.

### Methods

Forty children and adolescents (aged 6–16 years) with traumatic eye injury were recruited from the Ophthalmology Department at Tanta University Hospital during the period

between January and June 2014. Forty control children of the same age range were recruited among those visiting the outpatient clinic of the ophthalmology department in the same hospital for minor ophthalmologic complaints (e.g. errors of vision, squint, etc.) with no recent history of trauma to the eye. Children were excluded if they suffered from mental retardation (IQ < 70), or had significant neurological conditions that affect their collaboration with the study. Children with previous ocular trauma or previous eye operation were also excluded. Detailed history was taken from parents or caregiver, including place of trauma, causative agent, time between occurrence of trauma and presentation to the hospital, and previous systemic diseases.

All participants were subjected to full psychiatric history taking and mental status examination, in addition to physical and neurological examination. The scale of Fahmy and El-Sherbini [17] was used to collect demographic and socioeconomic data for families. The Arabic translation of the Stanford-Binet IQ 4th ed. [18,19] was used to assess the IQ of the children to determine the general level of intelligence and to exclude mental retardation in all participants. An Arabic-translated and validated version of the child behavior checklist (CBCL) for age 6–18 years was completed by the parent and scored using a computerized scoring software system (Assessment Data Manager, version 9.1; ASEBA Foundation, Burlington, USA) [20].

The conflict tactics scale (CTS) [21] is considered as the ‘most widely used instrument in research on family violence’ [22]. There are two versions of the CTS: the CTS2 (an expanded and modified version of the original CTS) [23,24] and the conflict tactic scale-parent child scale (CTSPC) [24,25]. The CTSPC (parent-child

**Table 1 Comparison between children with eye trauma and control children as regards demographic data and IQ**

Variables	Children with eye trauma (n = 40)	Control children (n = 40)	Statistics	P value
Age	9.2 ± 3.4	10.7 ± 4.3	t = 1.8	0.08
Sex (female) (%)	35	45	χ <sup>2</sup> = 0.8	0.4
SES	21.5 ± 4.2	23.3 ± 3.5	t = 2.1	<b>0.04</b>
IQ	82.6 ± 7.5	85.1 ± 7.1	t = 1.5	0.1

SES, socioeconomic status according to the scale of Fahmi and El-sherbini. Statistically significant P values are shown in bold (P ≤ 0.05).

**Table 2 Comparison between children with eye trauma and control children: CBCL problem parameters**

CBCL subscale	Children with eye trauma (n = 40)		Control children (n = 40)		t	P value	Adjusted P value <sup>a</sup>
	Mean	SD	Mean	SD			
Anxiety Symptoms	56.3	9.6	55.4	6.6	0.5	0.7	–
Depressive symptoms	55.8	7.0	56.7	7.8	0.6	0.6	–
Psychosomatic symptoms	57.8	5.4	55.0	6.7	2.1	<b>0.04</b>	0.06
Social problems	56.5	7.4	55.7	6.2	0.5	0.6	–
Thought problems	55.0	7.2	56.1	7.1	0.7	0.5	–
Symptoms of inattention	53.5	4.4	54.2	4.0	0.7	0.5	–
Rule-breaking behavior	55.6	7.4	52.7	4.4	2.1	<b>0.04</b>	<b>0.05</b>
Aggressive behaviors	55.4	7.2	56.0	8.0	0.4	0.7	–
Internalizing Problems	54.7	8.8	52.4	11.4	1.0	0.3	–
Externalizing problems	52.5	10.3	51.7	9.8	0.4	0.7	–
Total problems	52.2	9.9	52.4	10.0	0.1	0.9	–

CBCL, child behavior checklist.

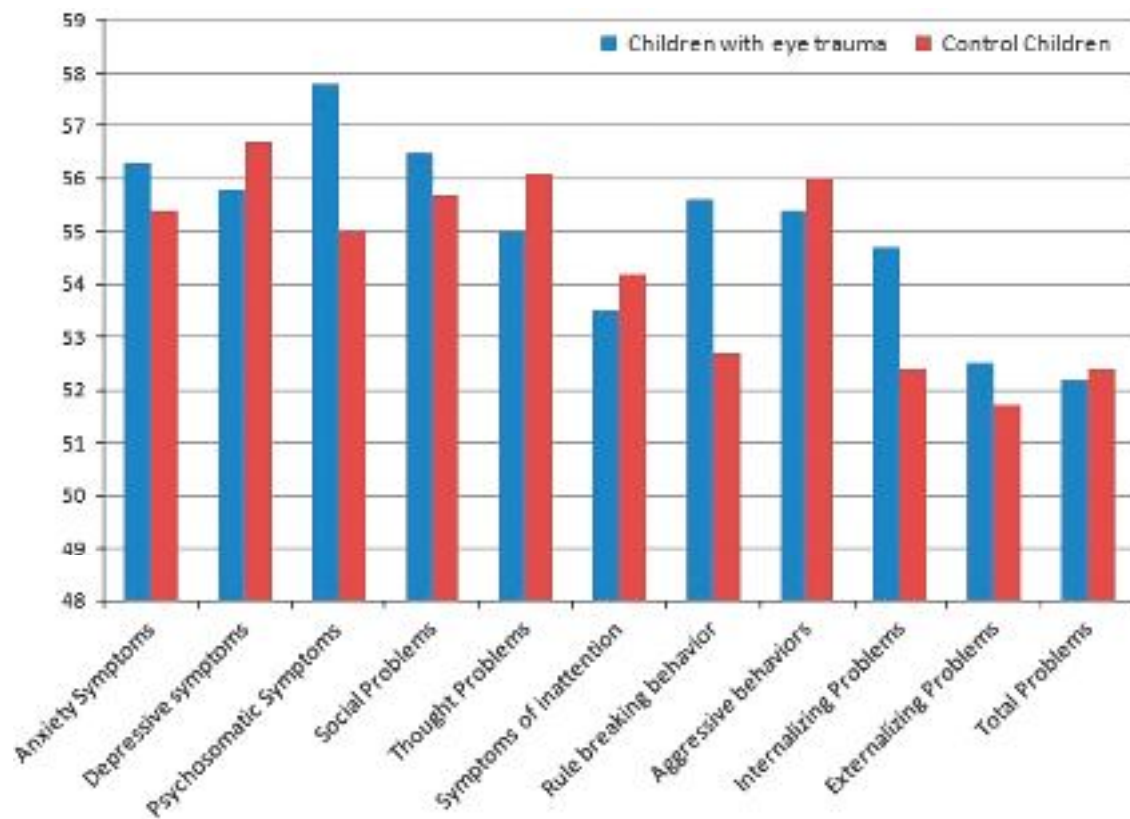
<sup>a</sup>P-values were adjusted for the significant differences in socioeconomic status. Statistically significant P values are shown in bold (P ≤ 0.05).

relationships) has scales to measure nonviolent discipline, psychological aggression, physical assault, weekly discipline, neglect, and sexual abuse. Every one of these subscales provides current and lifetime versions, making a sum of twelve subscales. After getting the permission from the original author, CTSPC was translated into Arabic by the second and the third authors of the current study. Both Arabic translation and blind back translation to English were presented and approved by the author before using the Arabic translation in the current study. Test-retest reliability was carried out (after 1-month period). Correlation coefficients for the dimensions were as follows: 0.884 for nonviolent discipline; 0.812 for nonviolent discipline lifetime; 0.820 for psychological

aggression; 0.720 for psychological aggression lifetime; 0.840 for physical assault; 0.756 for physical assault lifetime; 0.910 for weekly discipline; 0.845 for weekly discipline lifetime; 0.780 for neglect; 0.738 for neglect lifetime; 0.650 for sexual abuse; and 0.610 for sexual abuse lifetime. All these correlation coefficients were statistically significant, which asserted the reliability of the study.

The study was approved by the Research Ethical Committee of Faculty of Medicine, Tanta University (Tanta, Egypt). All participants provided informed consent before the start of the study. Data were analyzed using the Statistical Package for Social Sciences (SPSS), version 19 (SPSS Inc., Chicago, Illinois, USA).

Figure 1



Comparison between children with eye trauma and control children: CBCL problem parameters. CBCL, child behavior checklist.

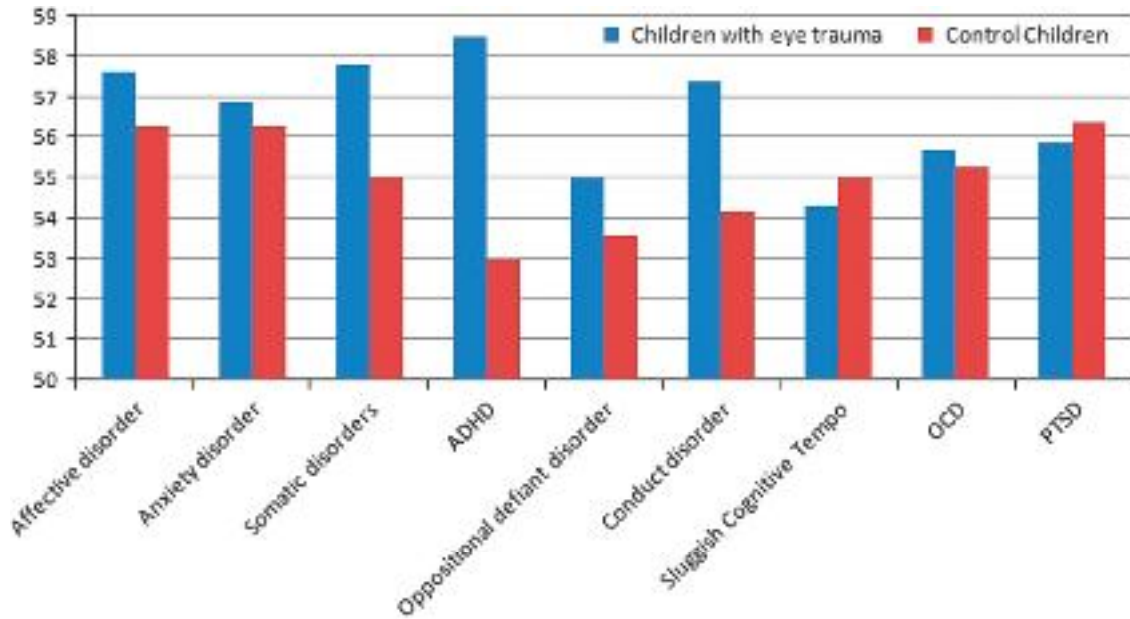
Table 3 Comparison between children with eye trauma and control children: CBCL DSM-oriented disorders

CBCL subscales	Children with eye trauma (n=40)		Control children (n=40)		t	P value	Adjusted P value <sup>a</sup>
	Mean	SD	Mean	SD			
Affective disorder	57.6	6.2	56.3	7.7	0.8	0.4	–
Anxiety disorder	56.9	9.1	56.3	7.5	0.4	0.7	–
Somatic disorders	57.8	5.4	55.0	6.7	2.1	<b>0.04</b>	0.06
ADHD	58.5	6.8	53.0	4.0	4.4	≤ <b>0.001</b>	≤ <b>0.001</b>
Oppositional defiant disorder	55.0	7.0	53.6	3.8	1.1	0.3	–
Conduct disorder	57.4	8.0	54.2	6.7	1.9	<b>0.05</b>	0.08
Sluggish cognitive tempo	54.3	6.5	55.0	6.0	0.5	0.6	–
OCD	55.7	9.1	55.3	7.4	0.2	0.8	–
PTSD	55.9	8.4	56.4	7.4	0.3	0.8	–

ADHD, attention deficit hyperactivity disorder; CBCL, child behavior checklist; DSM, *Diagnostic and Statistical Manual of Mental Disorders*; OCD, obsessive-compulsive disorder; PTSD, post-traumatic stress disorder.

<sup>a</sup>P-values were adjusted for the significant differences in socioeconomic status. Statistically significant P values are shown in bold (P ≤ 0.05).

Figure 2



Comparison between children with eye trauma and control children: CBCL DSM-oriented disorders. CBCL, child behavior checklist; DSM, Diagnostic and Statistical Manual of Mental Disorders.

Table 4 Comparison between children with eye trauma and control children: conflict tactic scale-parent child scores

CBCL subscale	Children with eye trauma (n=40)		Control children (n=40)		t	P value	Adjusted P value <sup>a</sup>
	Mean	SD	Mean	SD			
Nonviolent discipline	6.4	4.4	9.3	5.9	2.5	<b>0.01</b>	<b>0.02</b>
Nonviolent discipline lifetime	10.1	7.1	11.2	6.9	0.7	0.5	–
Psychological aggression	3.3	3.6	4.0	3.9	0.9	0.4	–
Psychological aggression lifetime	7.3	6.1	7.0	5.7	0.2	0.8	–
Physical assault	6.1	4.9	3.7	5.0	2.2	<b>0.03</b>	<b>0.02</b>
Physical assault lifetime	7.0	4.7	4.4	5.2	2.3	<b>0.02</b>	<b>0.01</b>
Weekly discipline	0.6	1.2	1.0	1.4	1.3	0.2	–
Weekly discipline lifetime	0.6	1.2	1.0	1.4	1.3	0.2	–
Neglect	0.1	0.3	0.1	0.2	0.5	0.7	–
Neglect lifetime	0.1	0.3	0.1	0.2	0.5	0.7	–
Sexual abuse	0.0	0.0	0.0	0.0	–	–	–
Sexual abuse lifetime	0.0	0.0	0.0	0.0	–	–	–

CBCL, child behavior checklist.

<sup>a</sup>P-values were adjusted for the significant differences in socioeconomic status. Statistically significant P values are shown in bold ( $P \leq 0.05$ ).

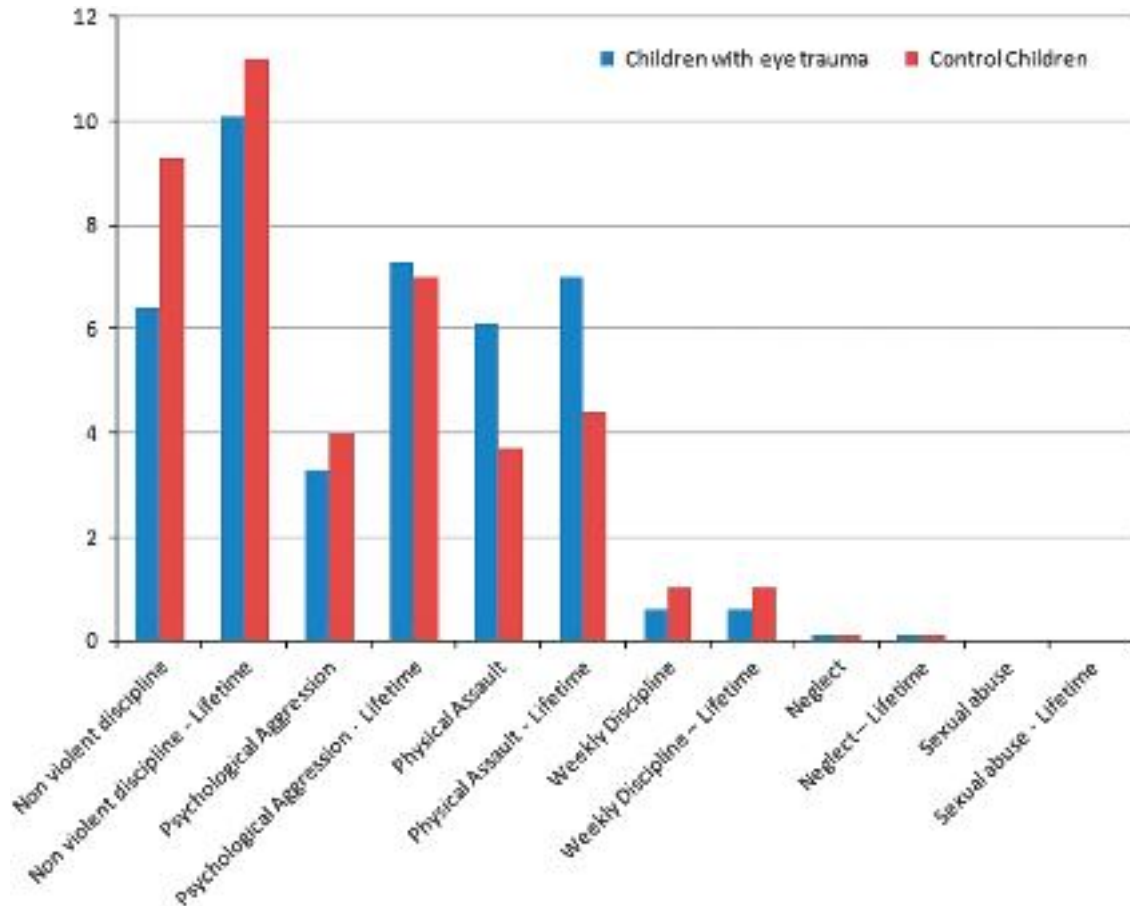
Results

Children with eye trauma were statistically matched to control children as regards age, sex, and IQ ( $P \geq 0.05$ ). However, the latter group showed a significantly higher socioeconomic status (SES) compared with the former group ( $P = 0.04$ ) (Table 1), a difference that required statistical adjustment for all subsequent clinical differences between the two groups. When the psychiatric and behavioral problems were explored and compared between the groups using the CBCL, children with eye trauma showed significantly more rule-breaking behavior problems, a difference that persisted after statistical adjustment for different SES using linear regression model. Another difference in the incidence of psychosomatic symptoms between the two groups did not persist after that

adjustment (Table 2 and Fig. 1). Children with eye trauma were shown to be more susceptible to be diagnosed with ADHD, again after adjustment for different SES, according to the CBCL DSM-oriented scales. Similar differences in rates of oppositional defiant disorder (ODD) and conduct disorders were also observed but did not stand for the statistical adjustment (Table 3 and Fig. 2).

When patterns of paternal discipline were explored and compared between groups using the CTSPC, the families of children with eye trauma reported a tendency to use less nonviolent discipline and more current and lifetime physical punishment as compared with the control group. Those differences were still significant after adjustment for difference in SES (Table 4 and Fig. 3).

Figure 3



Comparison between children with eye trauma and control children: conflict tactic scale-parent child (CTSPC) scores.

## Discussion

To our knowledge, this is the second study to explore the psychopathological and behavioral profile and parental pattern of discipline in a sample of children presenting with eye trauma. The association of eye trauma with inattention and the diagnosis of ADHD and ODD in the current study might be considered as a replication for the results found by Bayar *et al.* [9], who reported an association between penetrating eye injuries and inattentiveness, hyperactivity, oppositional defiant disorder, and conduct disorder in boys. The cited study failed to report similarly high incidence of eye trauma in girls with ADHD and ODD but did report that incidence in girls with conduct disorder. This result, which was not replicated in the current study, might be a result of the well-known higher incidence of the diagnosis of ADHD in boys than in girls [26]. Staller and Faraone [27] demonstrated that this sex difference might be false as girls with ADHD might be ignored and overshadowed by hyperkinetic and impulsive boys. Unlike boys, girls were usually inattentive without being hyperactive or impulsive. This view is compatible with the notion that accidental injuries might be more common in boys than in girls with ADHD.

It has been previously demonstrated that children with ADHD have increased risk for different types of injuries. DiScala *et al.* [28] reported that children with ADHD

symptoms had increased risk for injuries to multiple body regions and head injuries. It has been reported that a higher risk of injuries in patients with ADHD could be related to hyperactivity, inattentiveness, and risk-taking behavior [29,30]. Children with early disruptive behavior, ADHD, and ODD were also reported to be at an increased risk for unintentional injury in general, including eye injury [31,32].

Children with ADHD and ODD share many features, including aggression, impulsivity, and risk-taking behavior, with those subjected to child physical and sexual abuse [33]. Furthermore, given the genetic underpinnings of many cases of ADHD, biological parents of children with ADHD are likely to show impulse control and attention problems themselves [34], possibly increasing the likelihood of abusive behavior. It was estimated that 91% of children with comorbid ADHD and ODD had a history of trauma [35]. The three-way complex interaction between child externalizing behavior, parental use of physical punishment, and accidental physical trauma to the child is yet to be investigated. Although physical signs, including retinal hemorrhage in eye trauma, are frequently used to differentiate accidental trauma from that resulting from physical abuse [11,12,36]. Few, if any, studies investigated the direct relationship between child physical abuse and apparently accidental eye trauma in children.

Finally, it is important to highlight the limitations of this study. First, the small size of the sample might limit the generalization of the results on Egyptian youth or youth with accidental ocular trauma in general. Second, the information collected in this study was obtained only from parent reports; no self or teacher reports were obtained as most of the families were interviewed on only one occasion. Thus, inaccurate reporting due to parents' underestimation or overestimation of the symptoms might have been occurred. Furthermore, other confounding factors such as family conflicts, parenting styles, and medications received by children were not taken into account.

It has been estimated that ~4–6% of abused children present first to an ophthalmologist [37]. Some children present with a false history of trauma, and others present with only the symptoms that resulted from their abuse. Unsuspecting physicians misdiagnose the condition of up to one-third of symptomatic victims, depending on their age, severity of symptoms, and family composition [38]. The results of the current study emphasize the importance of considering the possibility of physical punishment, which is a common practice in our community, during the ophthalmologic examination of children with eye trauma. An appropriate evaluation of behavioral profile of the child, parenting style, and attitude toward physical punishment may prevent vision loss due to the future repetition of eye injuries in those children.

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## Conflicts of interest

There are no conflicts of interest.

## References

- 1 McGwin G Jr, Hall TA, Xie A, Owsley C. Trends in eye injury in the United States, 1992–2001. *Invest Ophthalmol Vis Sci* 2006; 47:521–527.
- 2 Thompson CG, Kumar N, Billson FA, Martin F. The aetiology of perforating ocular injuries in children. *Br J Ophthalmol* 2002; 86:920–922.
- 3 National Society to Prevent Blindness. *Vision problems in the United States*. New York, NY: National Society to Prevent Blindness; 1980. pp. 32–38.
- 4 Reinhardt MC, Reinhardt CA. Attention deficit-hyperactivity disorder, comorbidities, and risk situations. *J Pediatr (Rio J)* 2013; 89:124–130.
- 5 Kömürçü E, Bilgiç A, Hergüner S. Relationship between extremity fractures and attention-deficit/hyperactivity disorder symptomatology in adults. *Int J Psychiatry Med* 2014; 47:55–63.
- 6 Thikkurissy S, McTigue DJ, Coury DL. Children presenting with dental trauma are more hyperactive than controls as measured by the ADHD rating scale IV. *Pediatr Dent* 2012; 34:28–31.
- 7 Avsar A, Akbas S, Ataibis T. Traumatic dental injuries in children with attention deficit/hyperactivity disorder. *Dent Traumatol* 2009; 25:484–489.
- 8 Celenk F, Gökçen C, Celenk N, Baysal E, Durucu C, Karlikama M. Association between the self-insertion of nasal and aural foreign bodies and attention-deficit/hyperactivity disorder in children. *Int J Pediatr Otorhinolaryngol* 2013; 77:1291–1294.
- 9 Bayar H, Coskun E, Öner V, Gökçen C, Aksoy U, Okumus S, Erbagci I. Association between penetrating eye injuries and attention deficit hyperactivity disorder in children. *Br J Ophthalmol* 2015; 99:1109–1111.
- 10 Cox JM, Webber B, Joachim G. A community program to fight child abuse: the Fort Wayne Children's Foundation and Kids' Law. *J Manipulative Physiol Ther* 2007; 30:607–613.
- 11 Binenbaum G, Forbes BJ. The eye in child abuse: key points on retinal hemorrhages and abusive head trauma. *Pediatr Radiol* 2014; 44 (Suppl 4):S571–S577.
- 12 Levin AV, Christian CW. Committee on Child Abuse and Neglect, Section on Ophthalmology. The eye examination in the evaluation of child abuse. *Pediatrics* 2010; 126:376–380.
- 13 Maguire MG, Daniel E, Shah AR, Grunwald JE, Hagstrom SA, Avery RL, *et al.* Comparison of Age-Related Macular Degeneration Treatments Trials (CATT Research Group). Incidence of choroidal neovascularization in the fellow eye in the comparison of age-related macular degeneration treatments trials. *Ophthalmology* 2013; 120:2035–2041.
- 14 [No authors listed]. World report on violence and health. NSW Public Health Bull 2002; 13:190.
- 15 UNICEF, UNICEF Egypt Statistics in Focus: the extent of violent discipline for children in Egypt. *Analysis of the child disciplinary module, applied in 2009 round 5, as part of Information and Decision Support Center (IDSC) quarterly Household Conditions Survey from July 2008 to January 2012* 2013 Cairo, Egypt: UNICEF Egypt.
- 16 UNICEF, NCIC, a.M.N.a. *Violence against children in Egypt: quantitative survey and qualitative study in Cairo, Alexandria and Assiut* Cairo: UNICEF Egypt; 2015.
- 17 Fahmy S, El-Sherbini AF. Determining simple parameters for social classifications for health research. *Bull High Inst Publ Health* 1983; 13:95–108.
- 18 Thorndike RLH, Sattler EP, Stanford-Binet M. *Intelligence scale*, 4th ed. Chicago, IL: Riverside; 1986.
- 19 Melika L. *The Stanford Binet Intelligence Scale*. In: *Arabic examiner's handbook*. Cairo: Dar El Maref Publishing; 1998.
- 20 Achenbach TM, Rescorla LA. *Manual for the ASEBA school-age forms & profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families; 2001.
- 21 Straus MA. Measuring intra family conflict and violence: The Conflict Tactics (CT) Scales. *J Marriage Fam* 1979; 41:75–88.
- 22 Straus MA, Douglas EM. A short form of the Revised Conflict Tactics Scales, and typologies for severity and mutuality. *Violence Vict* 2004; 19:507–520.
- 23 Straus MA, Hamby SL, Boney-McCoy S, Sugarman DB. The Revised Conflict Tactics Scales (CTS2): development and preliminary psychometric data. *J Fam Issues* 1996; 17:283–316.
- 24 Straus MA, Hamby SL. Measuring physical and psychological maltreatment of children with the Conflict Tactics Scales. In: Kantor Glenda Kaufman, Jasinski Jana L, editors. *Out of the darkness: contemporary research perspectives on family violence*. Thousand Oaks, CA: Sage; 1997. pp. 119–135.
- 25 Straus MA, Hamby SL, Finkelhor D, Moore DW, Runyan D. Identification of child maltreatment with the Parent-Child Conflict Tactics Scales: development and psychometric data for a national sample of American parents. *Child Abuse Negl* 1998; 22:249–270.
- 26 Venkata JA, Panicker AS. Prevalence of attention deficit hyperactivity disorder in primary school children. *Indian J Psychiatry* 2013; 55:338–342.
- 27 Staller J, Faraone SV. Attention-deficit hyperactivity disorder in girls: epidemiology and management. *CNS Drugs* 2006; 20:107–123.
- 28 DiScala C, Lescohier I, Barthel M, Li G, *et al.* Injuries to children with attention deficit hyperactivity disorder. *Pediatrics* 1998; 102:1415–1421.
- 29 Badger K, Anderson L, Kagan RJ. Attention deficit-hyperactivity disorder in children with burn injuries. *J Burn Care Res* 2008; 29:724–729.
- 30 Shilon Y, Pollak Y, Aran A, Shaked S, Gross-Tsur V. Accidental injuries are more common in children with attention deficit hyperactivity disorder compared with their non-affected siblings. *Child Care Health Dev* 2012; 38:366–370.
- 31 Schwebel DC, Speltz ML, Jones K, Bardina P. Unintentional injury in pre-school boys with and without early onset of disruptive behavior. *J Pediatr Psychol* 2002; 27:727–737.
- 32 Swensen A, Birnbaum HG, Ben Hamadi R, Greenberg P, Cremieux PY, Secnik K. Incidence and costs of accidents among attention-deficit/hyperactivity disorder patients. *J Adolesc Health* 2004; 35:346.e1–346.e9.
- 33 Ethier LS, Lemelin JP, Lacharité C. A longitudinal study of the effects of chronic maltreatment on children's behavioral and emotional problems. *Child Abuse Negl* 2004; 28:1265–1278.
- 34 Johnston C, Mash EJ. Families of children with attention-deficit/hyperactivity disorder: review and recommendations for future research. *Clin Child Fam Psychol Rev* 2001; 4:183–207.
- 35 Ford JD, Racusin R, Ellis CG, Daviss WB, Reiser J, Fleischer A, Thomas J. Child maltreatment, other trauma exposure, and posttraumatic symptomatology among children with oppositional defiant and attention deficit hyperactivity disorders. *Child Maltreat* 2000; 5:205–217.
- 36 Skarbek-Borowska SE, Campbell KT. Globe rupture and nonaccidental trauma: two case reports. *Pediatr Emerg Care* 2011; 27:544–546.
- 37 Friendly DS. Ocular manifestations of physical child abuse. *Trans Am Acad Ophthalmol Otolaryngol* 1971; 75:318–332.
- 38 Jenny C, Hymel KP, Ritzen A, Reinert SE, Hay TC. Analysis of missed cases of abusive head trauma. *JAMA* 1999; 281:621–626.