

A study of child physical abuse

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Background

Child abuse – a form of family violence – is one of the major public health issues with far-reaching effects and costs and have many implications on health policy and prevention strategies.

Objective

The aim of the study was to assess risk factors of child physical abuse among school-aged children in the child's background and family characteristics and to estimate its psychiatric sequelae.

Patients and methods

The study was conducted in Maternity and Children Hospital, Al Medina (Al Monawara), Kingdom of Saudi Arabia, on school-aged children referred from the committee protection program from September 2012 to April 2015 using such some psychometric tests as the Child Maltreatment Questionnaire, the Mini International Neuropsychiatric Interview for children and adolescents (for major depressive episodes), Revised Behavior Problem Checklist, and Copper Smith Self-Esteem Inventory.

Results

Out of 186 students (age range between 12 and 16 years) 49.4% were the youngest children, mainly boys (58%), 94% had good health, 70% were from large-sized families, and 51% of whose mothers and 54% of fathers were illiterate, and all these variables showed a significant difference in both mild/moderate and severe child abuse. There were significant associations between physical abuse and low self-esteem, major depressive episode, conduct disorder, anxiety withdrawal, attention deficit hyperactivity disorder, and socialized aggression, mainly with severe physical abuse.

Conclusion

Physical abuse is found in a significant proportion of children, mostly living in large-sized families, of illiterate unemployed parents. Furthermore, physical abuse is commonly associated with low self-esteem, major depression episodes, conduct disorder, attention deficit hyperactivity disorder, and socialized aggression.

Keywords:

physical abuse, psychiatric sequelae, risk factors

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Introduction

Child abuse and other forms of violence against children date back to ancient civilizations (Ten Bensel *et al.*, 1997). Child abuse – a form of family violence – is one of the major public health issues with far-reaching effects and costs and have many implications on health policy and prevention strategies (Block, 1996). Child abuse is more likely in those who are socially deprived and in families without a wage earner, but it is important to recognize that it occurs in all layers of society (Abdel-Rahman and Nashed, 1994). Child physical abuse could be defined as acts done by the caregiver causing or have the potential to cause physical harm. The rate of physical abuse was estimated to be about 49/1000 in a survey study done in the USA in 1995 (Straus and Gelles, 1998).

The following behaviors were included: hitting the child with an object, other than on the buttocks;

kicking the child; beating the child; and threatening the child with a knife or gun. A survey study done in Egypt shows that 37% of children were beaten or tied up, 26% had physical injuries as loss of consciousness, fractures, or permanent disability (Youssef *et al.*, 1998). In another study, done in Korea by asking parents about their behavior with their children, about 45% admitted hitting, kicking, or beating their children, whereas two-third of them reported whipping them (Hahm and Guterman, 2001).

The extent of physical abuse range from mild/moderate physical maltreatment (e.g. skin injury and fractures of bones) to fatal abuse leading to death; the most

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common cause of death is injury to the head, followed by injury to the abdomen (Alexander *et al.*, 2001). According to the WHO there were 57 000 cases of homicide among children below 15 years due to physical abuse in year 2000.

Psychiatric morbidity of child abuse includes disorders of attachment, anxiety disorders, depressive disorder, suicide, impaired self-image, impulse control disorder, attention deficit/hyperactivity disorder (ADHD), impaired peer relationships, cognitive and developmental impairment, central nervous system impairment and dissociation amnesia, and corroboration (Gaensbaner and Sands, 1997; Endo *et al.*, 2006). It appears that there is general agreement across many cultures that child abuse should not be allowed (Bross, 2000). The aim of the study was to assess risk factors of child physical abuse among school-aged children in the child's background and family characteristics and to estimate its psychiatric sequelae.

Patients and methods

Sampling design

Site of the study

After obtaining the approval from the Institutional Ethics Committee, the study was conducted in Maternity and Children Hospital, Al Medina (Al Monawara), Kingdom of Saudi Arabia on school-aged children referred from the Committee Protection from September 2012 to April 2015.

Psychometric studies

(1) Child Maltreatment Questionnaire (Straus, 1990).

- (2) The Mini International Neuropsychiatric Interview for children and adolescents (the part for major depressive episode) (Sheehan *et al.*, 1998).
- (3) Revised Behavior Problem Checklist (Achenbach, 1991).
- (4) Coppersmith Self-Esteem Inventory (Mussa and Dusuki, 1991).

Statistical analysis

The statistical analyses were performed using SPSS 14.0; SPSS, version 18 (SPSS Inc. Chicago, IL) 17, was used to conduct the analysis. We used descriptive tools for prevalence analysis. The χ^2 -test (Mantel-Haenszel test for linear association) was used to test significance. Odds ratio was also used to define risk factors of child abuse against family and child characteristics.

Results

Sociodemographic characteristics of the studied children

Out of 186 students, age range between 12 and 16 years, 108 (58%) were boys and 78 (42%) were girls. In total, 175 (94%) out of 186 students were considered with no physical health problem, whereas there were 11 (6%) students with physical health problems; four (36.4%) suffered from physical deformity, two (18.2%) from special sense problems, one (9%) from learning problem, and four (36.4%) had two or more problems. There were significant associations between such variables and child physical abuse, mainly severe one (Table 1).

Sociodemographic characteristics of the studied families

Most of the families enrolled in the study were large sized (>6 persons) [70% ($n=130$)]. Overall,

Table 1 Sociodemographic characteristics of the studied children and physical abuse

	Physical abuse ($N=186$) [n (%)]	Mild/moderate physical abuse ($N=134$)		Severe physical abuse ($N=52$)	
		n (%)	C^2 (P) OR	n (%)	C^2 (P) OR
Sex					
Male	108 (58)	74 (40)	0.101 (>0.05)	34 (18)	1.1713 (>0.05)
Female	78 (42)	60 (32)		18 (10)	
Child position					
Only child	26 (14)	14 (7.5)	19.006 (<0.001)	12 (6.5)	5.129 (>0.05)
Eldest	31 (16.7)	23 (12.4)		8 (4.3)	
Middle	37 (19.9)	28 (15)		9 (4.8)	
Youngest	92 (49.4)	69 (37)		23 (12.4)	
Health status					
No physical health problem	175 (94)	125 (67)	25.273 (<0.001)	50 (26.9)	19.889 (<0.001)
Physical health problem	11 (6)	9 (4.8)		2 (1.1)	
Physical deformity	4 (36.4)	3 (33.30)		1	
Special sense problem	2 (18.2)	2 (22.2)		0	
Learning problem	1 (9)	1 (11.1)		0	
≥2 problems	4 (36.4)	3 (33.3)		1	

C^2 , Mantel-Haenszel test for linear association without continuity correlation factor; OR, odds ratio. Significant OR ($P<0.05$). Highly significant OR ($P<0.001$).

51% ($n=95$) of mothers and 54% ($n=100$) of fathers were illiterate. Working fathers constituted 93% ($n=173$) of the study group. There were significant associations between such variables and child physical abuse, mainly severe one (Table 2).

Distribution of psychiatric sequelae of abuse and specific behaviors of the students

Out of 186 students, 42.5% ($n=79$) were found to have low self-esteem and 11% ($n=20$) were found to have a major depressive episode. Regarding specific behaviors of physically abused students, each of conduct disorder (CD) and anxiety withdrawal (AW) constitute 6% of cases, attention deficit hyperactivity disorder (ADHD) constitute 10.8%, while 4.5% only of cases shows socialized aggression. There were significant associations between physical abuse and low self-esteem, major depressive episode, CD, AW, ADHD, SA, mainly with severe physical abuse (Tables 3 and 4).

Discussion

Childhood abuse is common, is associated with many negative consequences, and represents a major public health problem (Kendall-Tackett *et al.*, 1993).

Studies have found that childhood abuse increases the risk for a variety of psychological and behavioral problems (e.g. depression, substance abuse, aggression), cognitive and neurophysiologic deficits (Carrey *et al.*, 1995), and psychiatric disorders (Mullen *et al.*, 1993). Childhood abuse appears to be quite prevalent both in the united states and internationally (Finkelhor 1994; Fergusson *et al.*, 1996).

In our study, prevalence of mild/moderate physical abuse in children aged 12–16 years old was estimated to be 134/186 (72%). The most commonly used methods were slapping on the face or back of

Table 2 Sociodemographic characteristics of the studied families and physical abuse

	Physical abuse ($N=186$) [n (%)]	Mild/moderate physical abuse ($N=134$)		Severe physical abuse ($N=52$)	
		n (%)	C^2 (P) OR	n (%)	C^2 (P) OR
Family size					
Small (<4 persons)	26 (14)	14 (7.5)	27.412 (<0.001)	12 (6.5)	280.082 (<0.001)
Medium (4–6 persons)	30 (16)	13 (7)		17 (9.1)	
Large (>6 persons)	130 (70)	107 (57.5)		23 (12.4)	
Mother education					
Illiterate	95 (51)	73 (39)	69.515 (<0.001)	22 (11.8)	191.602 (<0.001)
Basic education	41 (22.1)	31 (16.7)		10 (5.4)	
Intermediate education	30 (16.1)	19 (10.3)		11 (6)	
High education	20 (10.8)	11 (6)		9 (4.8)	
Father education					
Illiterate	100 (54)	75 (40.3)	44.835 (<0.001)	25 (13.4)	157.523 (<0.001)
Basic education	30 (16)	23 (12.4)		7 (3.8)	
Intermediate education	36 (19)	24 (12.9)		12 (6.5)	
High education	20 (11)	12 (6.5)		8 (4.3)	
Mother work					
Housewife	166 (89)	123 (66)	0.821 (>0.05)	43 (23.2)	2.943 (>0.05)
Working	20 (11)	11 (6)		9 (4.8)	
Father work					
Not working	13 (7)	10 (5.3)	4.752 (<0.05)	3 (1.7)	6.313 (<0.05)
Working	173 (93)	124 (66.7)		49 (26.3)	

C^2 , Mantel–Haenszel test for linear association without continuity correlation factor; OR, odds ratio. Significant OR ($P<0.05$). Highly significant OR ($P<0.001$).

Table 3 Relationship between self-esteem and major depressive episode and physical abuse

	Physical abuse ($N=186$) [n (%)]	Mild/moderate physical abuse ($N=134$) (%)			Severe physical abuse ($N=52$) (%)		
		Negative	Positive	C^2 (P) OR	Negative	Positive	C^2 (P) OR
High self-esteem	50 (26.9)	46.59	7.36	226.638 (<0.001)	37.22	0	77.598 (<0.001)
Average self-esteem	57 (30.6)	30.86	41.12	17.217 (<0.001)	35.46	23.91	7.407 (<0.01)
Low self-esteem	79 (42.5)	21.96	50.92	128.341 (<0.001)	26.87	76.09	140.897 (<0.001)
Major depressive episode	20 (11)	6.23	20.86	12.032 (<0.001)	6.83	52.17	263.181 (<0.001)

C^2 , Mantel–Haenszel test for linear association without continuity correlation factor; OR, odds ratio. Significant OR ($P<0.05$). Highly significant OR ($P<0.001$).

Table 4 Relationship between specific behaviors of the students and physical abuse

	Physical abuse (N=186) [n (%)]	Mild/moderate physical abuse (N=134) (%)			Severe physical abuse (N=52) (%)		
		Negative	Positive	C ² (P) OR	Negative	Positive	C ² (P) OR
Conduct disorder	11 (6)	3.26	7.98	16.01 (<0.001)	1.54	36.96	343.917 (<0.001)
Anxiety withdrawal	11 (6)	2.97	11.66	45.545 (<0.001)	5.07	13.04	14.595 (<0.001)
Attention deficit hyperactivity disorder	20 (10.8)	3.56	9.2	20.532 (<0.001)	3.74	21.74	79.427 (<0.001)
Socialized aggression	9 (4.8)	3.56	6.13	5.192 (<0.05)	1.76	30.43	244.901 (<0.001)

C², Mantel-Haenszel test for linear association without continuity correlation factor; OR, odds ratio. Significant OR ($P < 0.05$). Highly significant OR ($P < 0.001$).

the head. Moreover, parents used to hit their children with bare hands, stick, broom, or belt. This is in agreement with the results of Flisher *et al.* (1997), Youssef *et al.* (1998), and Madu (2001). Hassan *et al.* (1999) noted that 42.5% of children (mean age: 9.67 years) were exposed to physical punishment. This variation may be explained by the different age groups of the sample, as well as environmental variations.

In contest to our study, Maker *et al.* (2005) found the estimation of parent-child physical violence to be 78% in the Latina sample, 73% in the South Asian and Middle Eastern sample, and 65% in the East Asian sample. In the present study severe physical abuse was found in 52/186 (28%) of the students. This was done through kicking him or her, putting pepper, hot pepper, or spicy food in the mouth, choking him or her by putting hands (or something else) around the neck, locking out of house, withholding food, forcing him or her to kneel or stand in one spot with an added burden (in heat or holding a heavy object), burning, scalding or branding him or her, and threatening him or her with a knife or gun. The most commonly used methods were kicking and burning with hot metallic object. Less frequently, parents choked or put chilli pepper in the children's mouth. Rarely parents withheld food or threatened them with a knife or gun. In contest to our study, Hassan *et al.* (1999) and Afifi *et al.* (2003) in Egypt found severe physical abuse in 13% and 7.6% of the studied children, respectively. In the UK, serious child maltreatment was experienced by 7% of respondents for physical abuse (May-Chahal and Cawson, 2005). In addition, Diaz *et al.* (2002) studied a nationally representative sample for 3015 girls; among the respondents, 8% reported a history of severe physical abuse. In spite of increasing awareness on family violence, there is scant information about its prevalence and is underreported in most cases.

Moreover, surprisingly during interviewing students of our study, a large proportion of them considered severe physical abuse as a method of discipline that is culturally accepted and saying words like this occur

often, surely, normally reflecting that they consider this abusive behavior as a parental right.

Physical abuse was more prevalent among students from governmental schools [140/186 (75.3%)] compared with those students from language schools [46/186 (24.7%)], and there was a significant association with physical abuse. This may reflect the social class. This was similar to the results obtained by Abdel-Rahman and Nashed (1994), who studied the difference between high and low social classes in child abuse and found it to be more prevalent among students from the low socioeconomic level.

Our study showed sex difference where boy students were more prone to physical abuse than girls [109/186 (58.6%)]. However, there was no significant association with physical abuse. This was similar to Thompson *et al.* (2004) who noted that abuse is more detrimental for girls. Furthermore, Youssef *et al.* (1998) in Egypt found more physical abuse among boys (61.43%) than among girls (38.57%), whereas Flisher *et al.* (1997) and Hassan *et al.* (1999) found no sex difference as regards physical abuse. On the other hand, Nelson *et al.* (1995) found female patients (34.6%) more likely than male patients (28%) to have ever been physically abused. These variations may be explained by the difference in the age group selected, as well as the total number of the sample.

In this study, the youngest children were found to be subjected more to physical maltreatment [92/186 (49.4%)] and there was significant association with physical abuse. This was similar to the findings of Hassan *et al.* (1999).

In this study, 175/186 (94%) of abused children were with good health status and there was significant association with physical abuse. These findings were in agreement with those found by Hassan *et al.* (1999) who found that good health status was a predictive factor for using mild/moderate and severe physical abuse. This was in contrast to the results of Flisher *et al.* (1997) and Youssef *et al.* (1998). The difference

among such studies can be attributed to difference in age group, life habits, concepts and meanings.

Family is a crucial agent in child-adolescent development. It is a vital part of the system of childhood and adolescence, as well as a system in its own right. Parents are a very essential factor in human development. When there is substantial enduring interference in the basic parental care, one would expect developmental problems (Flisher *et al.*, 1997). The impact of social and demographic variables including family size on the quality of parent-child interaction has been widely described in many studies the literature, demonstrating its influence on discipline practices and teaching style (Keenan *et al.*, 1998). In this study, physical abuse was mostly encountered among large families (>6 persons) [130/186 (70%)]. This was in agreement with Youssef *et al.* (1998), Hassan *et al.* (1999), Tebbutt *et al.* (1997), and Afifi *et al.* (2003).

In our study, parents with no education or a lower level of education (one to six schooling years) was strongly associated with physical abuse. Corporal punishment was found to be significantly increased in parents with lower level of education (Youssef *et al.*, 1998; Hassan *et al.*, 1999; Ismail and Attia, 2002).

In our study, mother's work was not associated with physical abuse. This finding was in agreement with the study of Youssef *et al.* (1998). The explanation of the nonsignificance regarding mother's work in mild/moderate and severe physical abuse is that this form of abuse may be related more to the mother's educational level that influences more the way of raising up children. On the other hand, children of working mothers were less likely to be subjected to punishment. This could be explained by the fact that the working mother who spends a lot of time outside home tends to show more affection to her children when with them.

Abuse victims are at an increased risk for a variety of child and adolescent psychiatric diagnosis, such as depressive and anxiety disorders, CD, oppositional defiant disorder, ADHD, as well as substance abuse (Kaplan *et al.*, 1999).

The current study revealed that low self-esteem was found in 79/186 (42.5%) of physically abused children and there was significant association between low self-esteem and physical abuse, especially severe physical abuse, and this was in agreement with Tebbutt *et al.* (1997) and Stein *et al.* (2001).

An association of physical child abuse with adult depression has been indicated (Mullen *et al.*, 1998). This was in agreement with the present study, where 11% of physically abused children (20/186) were found to have a major depressive episode with significant difference, especially with severe physical abuse.

Green (1987) documented evidence of self-destructive behavior consisting of self-mutilation, suicidal attempts, or suicidal ideation in relation to physical abuse. The current study determined the specific behaviors of the students using the Revised Behavior Problem Checklist. The scales obtained were CD, AW, ADHD, and SA.

Lewis (1992) reported that physical abuse is strongly correlated with delinquent and aggressive behavior; the reason of this may be that inflicting physical harm to the children makes them more impulsive, irritable, paranoid, and hypervigilant. As a result of that, abused children shows more aggressive behavior than do their peers (Klimes-Dougan and Kistner, 1990). The children exposed to abuse frequently rationalize their aggressive behavior to be as a result of the bad behavior of their peers (Dodge *et al.*, 1990). The aggressive behavior of the abused children makes them more blamed by others (Muller *et al.*, 1993) leads to peer rejection (Salzinger *et al.*, 1993).

In our study, CD and SA were mainly encountered with severe physical abuse. This was in agreement with Flisher *et al.* (1997). Ismail and Attia (2002) found behavioral disorders in 39% of the studied sample. CD accounted for 12%. The sample was different regarding the total number of cases and the age group was younger in this later study (9–12 years old). McCabe *et al.* (2005) found that exposure to violence significantly predicted CD.

In this study abused children were hypervigilant, anxious, and fearful in relation to adults and expected punishment and criticism, especially with severe physical abuse.

This study showed the strong association between ADHD and severe physical abuse. This was in agreement with the results of Kaplan *et al.* (1999). On the other hand, Ismail and Attia (2002) reported an incidence 12% and this may be related to the difference in the total number of cases and the age group. This ADHD could provoke abusive behavior from the parent. On the other hand, the symptoms of ADHD could be due to the trauma of the child abuse itself (Famularo *et al.*, 1992).

Conclusion

Physical abuse is found in a significant proportion of adolescents, mainly in males, mostly from governmental schools, living in large-sized families, and of illiterate unemployed mother and father. Physical abuse, especially severe one, leads mostly to low self-esteem, major depression episodes, CD, ADHD, and SA.

Recommendations

Effective primary prevention of family violence might be enacted by the elimination of factors that lead to violence in society and the family, such as the use of violence as form of media entertainment; stresses such as unemployment, poverty, and inequality of opportunity should be abolished; families should be incorporated into a network of community, to reduce social isolation, and families should be taught alternatives to violence in dealing with their children's behavior.

Parent education classes for new parents may have benefits for those who are most motivated to attend but probably make little impact upon those families who are at highest risk because of their apathy or antipathy toward such facilities.

Home visitation has been proposed as a potent means of preventing a child's maltreatment to provide both educational and social support simultaneously.

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Conflicts of interest

There are no conflicts of interest.

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