Child Abuse in Iran: a systematic review and meta-analysis

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Objective: The aim of the present study was to estimate the pooled prevalence of different types of child abuse in Iran.
Method: We systematically searched four English databases (PubMed, Sciencedirect, PsychINFO and Scopus), and three Farsi databases (Magiran, IranMedex and SID) to find out relevant articles that have reported the prevalence of child abuse in Iran. Studies conducted on special samples, special setting or on adult population for history of child abuse were excluded from our study. The total number of obtained articles from English databases was 83. After removing the duplicated articles, 77 manuscripts remained. Next, we screened the articles based on their title and abstract and only 13 articles remained. After screening based on the full text only 5 studies were left. Since Farsi databases did not give us the option to get all the search results together, we read the search results based on their titles and selected the relevant articles. Twenty-four studies were selected based on their title. After screening based on the full text, 8 studies remained. The total number of the studies from both English and Farsi databases that we entered in our review was 13.
Result: The prevalence of physical abuse, emotional abuse and neglect in both genders differed from 9.7% to 67.5 %, 17.9% to 91.1% and 23.6% to 80.18%, respectively. The pooled estimate of the prevalence of child physical abuse in both genders was 43.591% (CI -216.146, 303.328%), and the pooled estimate of the prevalence of child emotional abuse was 64.533% (CI -195.205, 324.270). In regards to child neglect, the pooled estimate of the prevalence was 40.945% (CI -274.989, 356.879). The heterogeneity of the studies was not statically significant ($I^2 = 0.0\%$).
Conclusion: Child abuse has several negative effects on the health of children and adults. It seems that child abuse in Iran is in a critical condition, so the policy makers should act upon solving this problem and design special programs and develop effective policies to prevent child abuse in Iran.

Keywords: *Child abuse, Prevalence, physical abuse, emotional abuse, neglect and Iran.*

Child abuse and maltreatment are common problems that have several direct and indirect negative effects on child physical and mental health and also on the community (1-4). Although there are some differences in the definition and classification of child abuse, there are four types of child abuse that are commonly mentioned in previous researches: physical abuse, emotional abuse, sexual abuse and child neglect. Physical abuse refers to behaviors that lead to any kinds of injuries to the child (e.g., hair pulling, hitting)(5); emotional abuse includes behaviors that lead to feeling of being unloved, unvalued and unwanted in children (e.g., insulting, shouting)(6); sexual abuse is forcing children to engage in sexual activities such as genital or oral contact, exhibitionism to the child and child pornography (7, 8); and neglect includes poor care of physical and emotional needs of children(5).

There are several individual and environmental factors that increase the risk of child abuse: family size, low education level of the parents, lower mother's age, poverty, parenting style, parental addiction, limitation in social support and network, child's sex, child's age, physical or mental disability and homeless children(9-15).

Based on previous studies, child abuse has immediate and long term effects on the child that may continue through his/her life (1, 16). Moreover, child abuse may lead to post-traumatic stress, depression, low self-esteem, social dysfunction, inter-personal problems, high risk behavior, suicide and aggression (1, 2, 17-20) in adulthood.

Several studies have attempted to identify the prevalence of child abuse in different countries. For example, Euser et.al investigated the prevalence of child abuse in the Netherlands from 2005 to 2010.

Based on their findings, 27.37% of children experienced any kinds of abuse (0.8%, 5.06%, 5.50%, 10.22% and 19.80% sexual abuse, physical abuse, emotional abuse, physical neglect and emotional neglect, respectively)(21). In the city of Curitiba, Brazil, during a period of five years, 17,082 cases of child abuse have occurred. Child neglect was the most prevalent type of abuse (57%) followed by physical abuse (7.9%), sexual abuse (4.7%) and psychological abuse (3.4%), respectively (22). In Saudi Arabia, from 2000 to 2008, 188 cases of child abuse were reported and physical abuse (48.9%) and emotional abuse (32.3%) had the highest prevalence; sexual abuse (15%) and neglect (8.3%) were in the next places in these cases (23). Based on a meta-analysis on the world-wide prevalence of child sexual abuse (fifty-five studies from 24 countries), 8 to 31% of girls and 3 to 17% of boys experienced different types of sexual abuse(8).

Iran has a population of more than 75 million, 31% of which are younger than 19 years of age. Recently, some studies have investigated child abuse in different cities of Iran, but there is not an overall estimation of child abuse in the whole country. Most of these studies focus on any types of child abuse except sexual abuse due to cultural issues (24). For example, a study conducted in Tehran, the capital city of Iran, revealed the prevalence of 17.5% for physical abuse and prevalence of 36.4% and 49.46% for neglect and emotional abuse, respectively (25). Another study showed that the prevalence of emotional abuse, physical abuse and neglect was 78%, 56% and 39% in Zanjan, respectively (26).

Because of the importance of child abuse and lack of overall estimation in Iran, the aim of the present study was to review published articles on this subject and perform a meta-analysis to identify the pooled estimation of child abuse prevalence in Iranian children in the whole country.

Material and Methods

Literature Review

The literature was reviewed systematically in June 2014. We searched four English databases (PubMed, Sciencedirect, PsychINFO and Scopus) and three Farsi databases (Magiran, IranMedex and SID). The search term was "(child OR adolescence) AND (prevalence OR incidence OR rate) AND (abuse OR neglect OR maltreatment) AND Iran" entered in "title and abstract" search field of English databases. For searching in Farsi databases, we used Farsi words that were equivalent to English search terms. Two researchers searched the databases separately.

Inclusion and Exclusion Criteria

All original studies that investigated the current prevalence of child abuse in a sample of Iranian children and adolescents (under 18 years of age) were included in our study. Those studies conducted on special samples (e.g., children with learning disability and ADHD), special settings (e.g., child

hospital) or on adult population for history of child abuse were excluded.

Selecting and Screening

The total number of the obtained articles from the English databases was 83. When we removed the duplicates, 77 articles were left. After we screened the articles based on the title and abstract, only 13 articles remained. When we screened the articles based on their full text, only 5 studies remained.

Since the Farsi databases did not give us the option to obtain all the search results together, we read the search results based on their titles and selected the relevant articles. Twenty-four studies were selected based on their titles. After screening based on the full text, 8 studies were left.

The total number of the studies from both English and Farsi databases that we entered in our review was 13.

Quality Assessment

The quality of all the selected studies was assessed by the authors in terms of the sampling method, the number of samples, measurements and report of results; none of the selected studies were excluded due to their quality.

Data Extraction

Data in regards to the study (year and area), characteristics of the samples (total sample, percent of boys, percent of girls and age) and the prevalence of all types of abuse (physical, emotional, sexual and neglect) were extracted from the articles. Two researchers extracted the data based on a data extraction prepared previously.

Data Analysis

The pooled estimates of the prevalence of child abuse were calculated using the fixed-effects meta-analysis. This method is appropriate for conditions in which we assume there is no heterogeneity among the studies. The variance of the studies or heterogeneity in estimates was calculated using chi-squared and I^2 statistics test. The I^2 statistic is reported as a percentage, with higher values indicating greater heterogeneity between estimates of individual studies (27). Based on the Cochrane guideline, we could interpret I^2 as follows: 0% to 40% might not be important, 30% to 60% may represent moderate heterogeneity, 50% to 90% may represent substantial heterogeneity and 75% to 100% considerable heterogeneity (28). An important factor that may influence the results of a meta-analysis is bias. There are different ways to address this issue. One statistical way to reduce the effect of bias is to weight studies based on their precision. In this method, all studies are weighted by the inverse variances of their effect estimates (28). We used this method to address the risk of bias in our study. All analyses were done by STATA statistical software package, version12.0.

Results

The summary of the obtained data from the selected studies is presented in Table 1. One of the studies only investigated child abuse in boys (29) and one of them only investigated child abuse in girls (30). Three studies have been reported child sexual abuse, but only one of them reported sexual abuse in both genders (31), and the other two studies only reported sexual abuse in girls (30, 32). The prevalence of physical abuse, emotional abuse and neglect in both genders differed from 9.7% to 67.5 %, 17.9% to 91.1% and 23.6% to 80.18%, respectively .

The pooled estimate of the prevalence of child physical abuse in both genders was 43.591% (CI -216.146, 303.328%) (Figure1). The heterogeneity of studies was not statically important (I^2 = 0.0%). Figure 2 demonstrates the pooled estimate of prevalence of child emotional abuse as 64.533% (CI -195.205, 324.270) with no heterogeneity (I^2 = 0.0%).

In regards to child neglect (Figure3), the pooled estimate of prevalence was 40.945% (CI -274.989, 356.879) with no heterogeneity (I^2 = 0.0%).
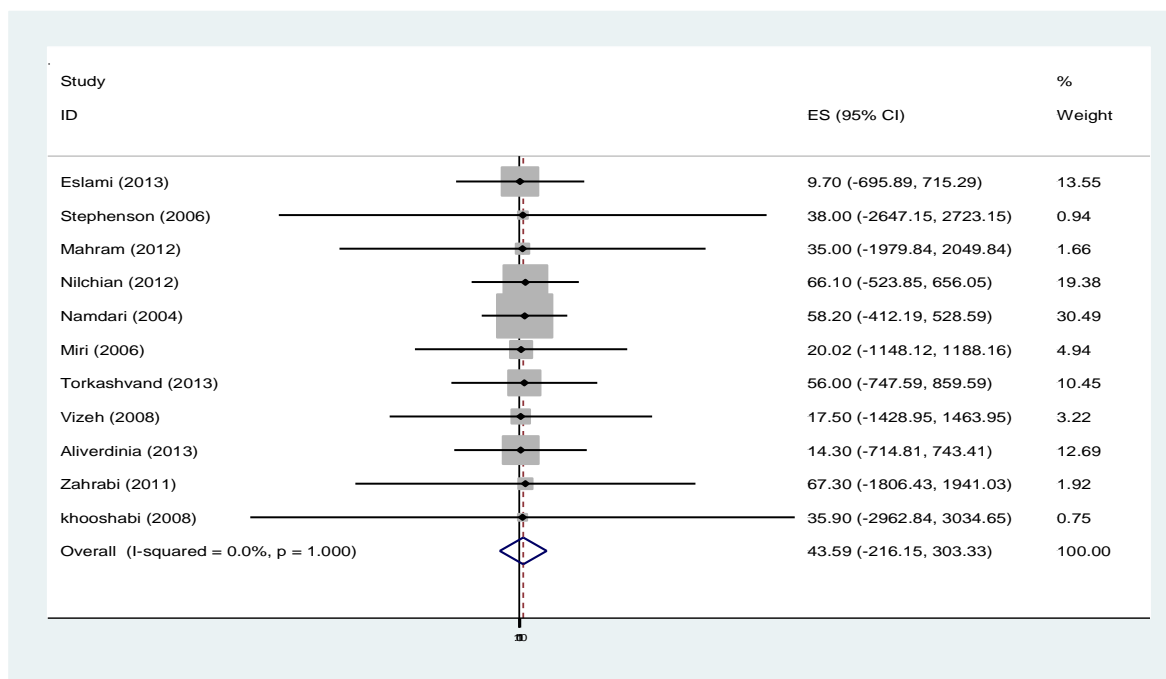

Study ID	ES (95% CI)	% Weight
Eslami (2013)	9.70 (-695.89, 715.29)	13.55
Stephenson (2006)	38.00 (-2647.15, 2723.15)	0.94
Mahram (2012)	35.00 (-1979.84, 2049.84)	1.66
Nilchian (2012)	66.10 (-523.85, 656.05)	19.38
Namdari (2004)	58.20 (-412.19, 528.59)	30.49
Miri (2006)	20.02 (-1148.12, 1188.16)	4.94
Torkashvand (2013)	56.00 (-747.59, 859.59)	10.45
Vizeh (2008)	17.50 (-1428.95, 1463.95)	3.22
Aliverdinia (2013)	14.30 (-714.81, 743.41)	12.69
Zahrabi (2011)	67.30 (-1806.43, 1941.03)	1.92
khooshabi (2008)	35.90 (-2962.84, 3034.65)	0.75
Overall (I-squared = 0.0%, p = 1.000)	43.59 (-216.15, 303.33)	100.00

Figure 1: the pooled estimate of prevalence of child physical abuse in both genders

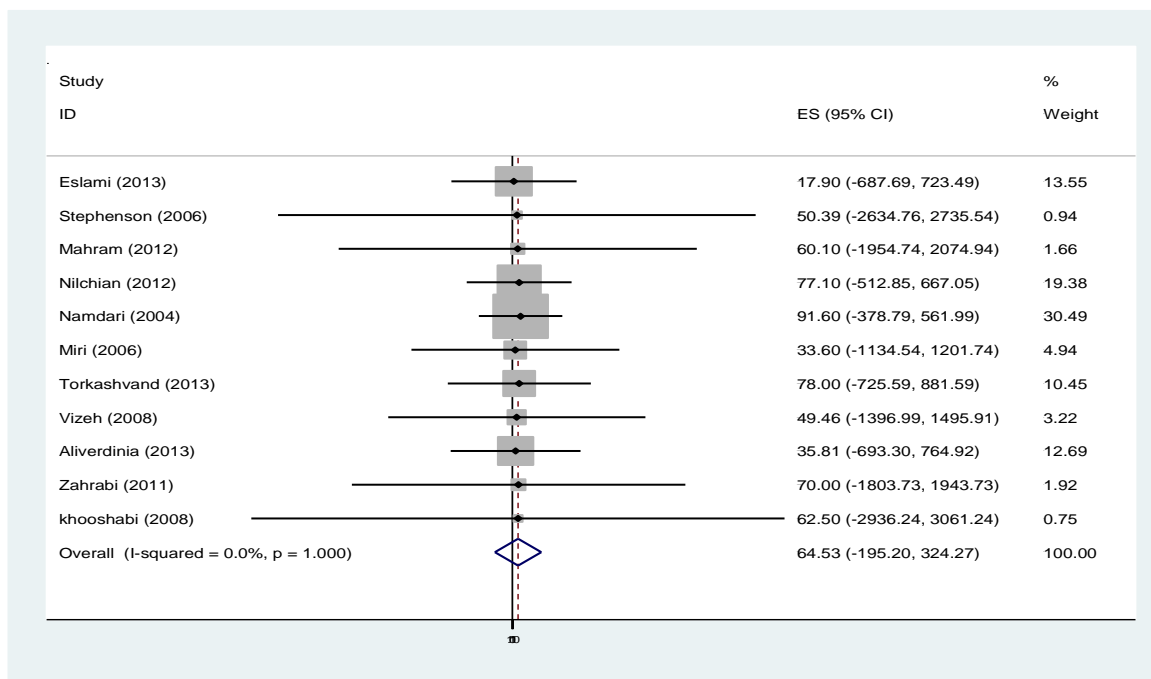| Study ID	ES (95% CI)	% Weight
Eslami (2013)	17.90 (-687.69, 723.49)	13.55
Stephenson (2006)	50.39 (-2634.76, 2735.54)	0.94
Mahram (2012)	60.10 (-1954.74, 2074.94)	1.66
Nilchian (2012)	77.10 (-512.85, 667.05)	19.38
Namdari (2004)	91.60 (-378.79, 561.99)	30.49
Miri (2006)	33.60 (-1134.54, 1201.74)	4.94
Torkashvand (2013)	78.00 (-725.59, 881.59)	10.45
Vizeh (2008)	49.46 (-1396.99, 1495.91)	3.22
Aliverdinia (2013)	35.81 (-693.30, 764.92)	12.69
Zahrabi (2011)	70.00 (-1803.73, 1943.73)	1.92
khooshabi (2008)	62.50 (-2936.24, 3061.24)	0.75
Overall (I-squared = 0.0%, p = 1.000)	64.53 (-195.20, 324.27)	100.00

Figure 2: the pooled estimate of prevalence of child emotional abuse in both genders

Table 1: summary of studies

#	References	Total (N)	Male (%)	Female (%)	Age (mean or rang)	City or province	Physical abuse (%)			Emotional abuse (%)			Sexual abuse (%)			Neglect		
							male	female	both	male	female	both	male	female	both	male	female	both
1	Eslami-Shahrbabaki (2013)	360	51.10%	48.90%	High school	Kerman (city)	-	-	9.7	-	-	17.9	-	-	-	-	-	23.6
2	Stephenson (2006)	1370	62.60%	37.40%	11-18	Kurdistan (province)	45	28	38	80.4	64.7	50.39	-	-	-	85.6	71.1	80.18
3	Mahram (2012)	1028	52.50%	47.50%	elementary school	Qazvin (province)	19.9	15.8	35	32.3	29.2	60.1	-	-	-	20.2	18.4	38.3
4	Nilchian (2012)	301	50.2%	49.8%	8 (sd=1.68)	Esfahan (city)	-	-	66.1	-	-	77.1	-	-	4.1	-	-	64.1
5	Namdari** (2004)	240	51.25	48.75	Guidance school	Khorramabad	-	-	58.2	-	-	91.6	-	32.5	-	-	-	-
6	Miri (2006)	596	48.2%	51.8%	High school	Bam	-	-	20.02	-	-	33.6	-	-	-	-	-	24.9
7	Torkashvand (2013)	410	48.78%	51.22%	Guidance School (3)	Zanjan	52.5	59.5	56	75	81	78	-	-	-	31	46.7	39
8	Vizeh (2008)	738	51.90%	48.10%	High school	Tehran	-	-	17.5	-	-	49.46	-	-	-	-	-	36.4
9	Aliverdinia (2013)	372	?	?	High school	Shahriar	-	-	14.3	-	-	35.81	-	-	-	-	-	31.77
10	Zahrabi ** (2011)	956	?	?	2-5 years	Ahvaz & Haftgol	-	-	67.5	-	-	70	-	-	-	-	-	-
11	Mikaeili* (2012)	2000	100%	0%	Guidance school	Ardabil (city)	3.1	-	-	52.1	-	-	-	-	-	12.55	-	-
12	Fakhari* (2012)	399	0%	100%	14.9 (sd=0.8)	Tabriz	-	4.6	-	-	23.6	-	-	2.3	-	-	4.7	-
13	Khooshabi (2008)	1530	51.3%	48.7%	Guidance school	Tehran	39.9	27.4	35.9	58.6	66.5	62.5	-	-	-	29.3	36.6	20.5

*excluded studies from total prevalence meta-analysis due to specificity to one gender
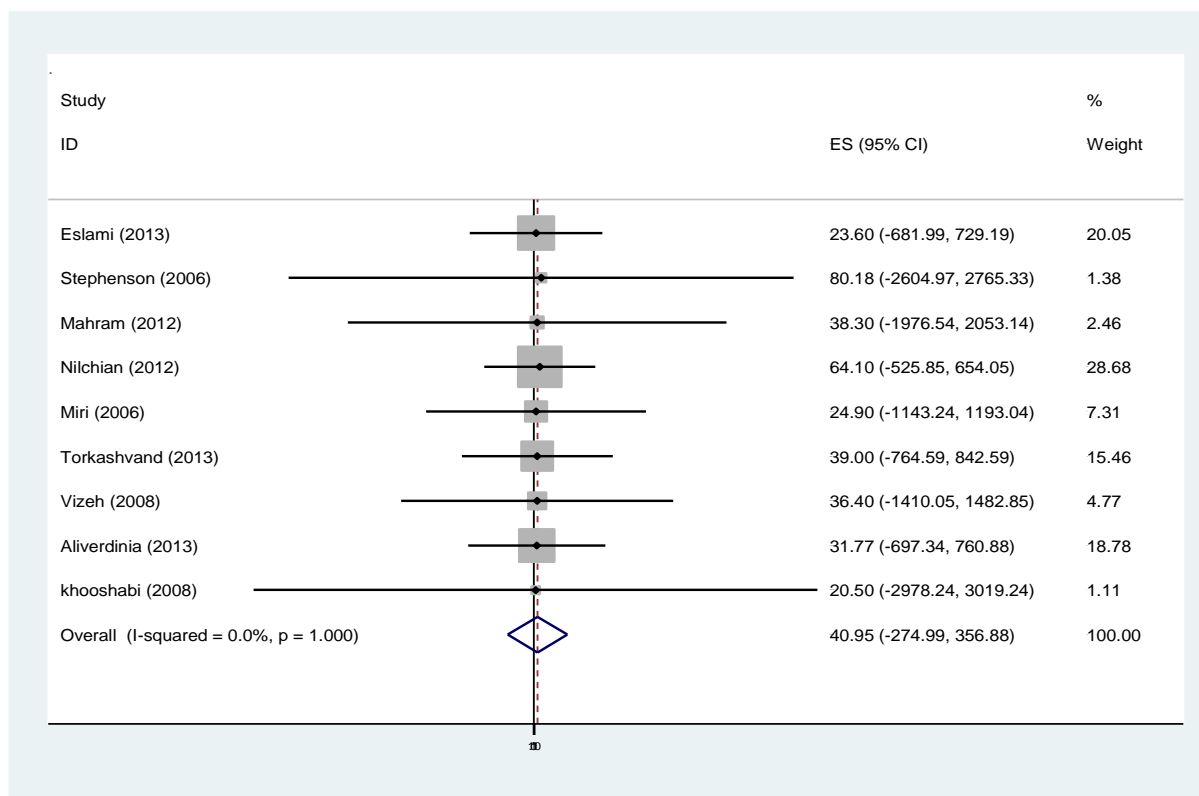**studies that didn't report neglect

Study		ES (95% CI)	%
ID			Weight
Eslami (2013)		23.60 (-681.99, 729.19)	20.05
Stephenson (2006)		80.18 (-2604.97, 2765.33)	1.38
Mahram (2012)		38.30 (-1976.54, 2053.14)	2.46
Nilchian (2012)		64.10 (-525.85, 654.05)	28.68
Miri (2006)		24.90 (-1143.24, 1193.04)	7.31
Torkashvand (2013)		39.00 (-764.59, 842.59)	15.46
Vizeh (2008)		36.40 (-1410.05, 1482.85)	4.77
Aliverdinia (2013)		31.77 (-697.34, 760.88)	18.78
khooshabi (2008)		20.50 (-2978.24, 3019.24)	1.11
Overall (I-squared = 0.0%, p = 1.000)		40.95 (-274.99, 356.88)	100.00

Figure 3: the pooled estimate of prevalence of child neglect in both genders

Discussion

We have entered 12 papers in our review; of which, 10 have been used in the meta-analysis. As mentioned previously, child sexual abuse has rarely been studied among Iranian children; however, we found three studies that have estimated the prevalence of sexual abuse in Iran. The reported prevalence between these studies was very different. A study conducted in Tabriz, reported the prevalence of sexual abuse in girls as 2.3% (30) and another study on a sample of guidance-school girls in Khorramabad showed that 32.5% of girls experienced sexual abuse (32). The results of Khorramababd study is closer to the worldwide prevalence of sexual abuse in girls (8 to 31%) (8). In Tabriz study the reported prevalence is less than other countries, and as noted by its authors this seems to be due to the fact that considerable number of participants did not answer to questions about sexual abuse.

There are also differences in the prevalence of other types of child abuse; the reported prevalence of physical abuse, emotional abuse and neglect in both genders differs from 9.7% to 67.5 %, 17.9% to 91.1% and 23.6% to 80.18%, respectively in different studies. These differences are large due to different definitions and scales used in these studies. And also cultural differences in different cities of Iran may have an impact on the attitude toward child abuse and answers of the respondents .

The pooled estimate of the prevalence of different child abuses that we calculated was 43.591%, 64.533% and 40.945% for physical abuse, emotional abuse and neglect, respectively. The heterogeneity testing showed that our findings are reliable (I2 = 0.0%). Based on our findings, emotional abuse is the most prevalent type of child abuse in the Iranian population.

Comparing to the reported prevalence of child abuse in other countries, its prevalence in Iran is much higher than the developed countries, but it is near to other developing and undeveloped countries. A national survey in America shows that the prevalence of types of child abuse equals to 8.9%, 10.3% and 11.6% for physical abuse, emotional abuse and neglect, respectively (33). In an example of a European country (the Netherlands), the prevalence of 5.06%, 5.50%, 10.22% and 19.80% was reported for physical abuse, emotional abuse, physical neglect and emotional neglect, respectively (21). Japan is an Asian country like Iran. Surprisingly, the prevalence of child abuse in this country is much lower than Iran and developed countries; physical abuse, 3%, sexual abuse, 0.6%, neglect 0.8%, and psychological abuse, 4%(34).

Zambia and Kenya are two undeveloped African countries where physical abuse and neglect are highly prevalent (40% and 59% in Zambia, 59% and 42% in Kenya, for physical abuse and neglect, respectively) (35). Unfortunately, the pooled prevalence of physical abuse and neglect in Iran is similar to these countries.

It seems that some cultural and legal issues are the reasons of the high prevalence of child abuse in Iran compared to developed countries. For example, physical punishment is common and accepted in Iranian families as a way to control and correct children's behavioral problems. Also, there is no comprehensive program to prevent or report child abuse in Iran .

One of the demographic variables that influence the probability of child abuse is sex. Due to less number of acceptable studies that reported child abuse in both genders separately, we did not do a meta-analysis on them. The prevalence of physical abuse in boys is in the range of 3.1 to 52.5% and in girls is 4.6 to 59.5%. In three of four studies that reported physical abuse in both boys and girls, the prevalence in boys was more than in girls (45% vs. 28%, 19.9% vs. 15.8% and 39.9% vs. 27.4%)(36-38) and in one study girls had more experience of physical abuse (59.5% vs. 52.5%)(26). In regards to emotional abuse and neglect, two studies reported more emotional abuse (80.4% vs. 64.7% and 32.3% vs. 29.2%) and neglect (85.6% vs. 71.1% and 20.2% vs. 18.4%) in boys (36, 37) and two studies in girls (81% vs. 75% and 66.5% vs. 58.6% for emotional abuse and 46.7% vs. 31% and 36.6% vs. 29.3% for neglect)(26, 38). One study investigated child abuse only in boys (29) and another study was conducted only on girls (30). After comparing the findings of these two studies we found that physical abuse has more prevalence in girls (4.6% vs. 3.1%), but emotional abuse and neglect are more prevalent in boys (52.1% vs. 23.6% and 12.55% vs. 4.7%). In sum, previous studies have inconsistent results in comparing child abuse of boys and girls.

Limitation

Although we have tried to collect the most relevant data for our study, focusing only on the published articles was one limitation of this study which could affect the results. Further investigation on unpublished data is necessary to reach a better estimation of child abuse in Iran.

Conclusion

Our study revealed a high prevalence of child abuse in Iran. As mentioned previously, child abuse has several negative effects on child and adult health. It seems child abuse in Iran is in the critical condition, so policy makers should pay particular attention to this matter and design special programs and develop policies to prevent child abuse in Iran. Most developed countries use "the Mandatory Reporting of Child Abuse and Neglect" as a way to detect and prevent child abuse (39). Based on this rule, professionals who work with children should report suspected cases of child abuse to the relevant regulatory authorities. As this model has proven to be practical and effective in the countries where it is being implemented, it can also be used in our country.

Acknowledgment

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