

Review Article

A systematic review and meta-analysis of failure to take history as a barrier of reporting child abuse by dentists in private and state clinics

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ABSTRACT

Background: Since the symptoms of child abuse and neglect often manifest in the orofacial region, the dental team has a key role in identifying children subjected to abuse. This study was aimed to explore the prevalence of failure to take history as a barrier to reporting child abuse by dentist around the world.

Materials and Methods: In this systematic review and meta-analysis, PubMed, Embase, Scopus, Google Scholar, ProQuest, Cochrane, and ISI databases were searched for the cross-sectional articles in English languages on barriers to reporting child abuse and lack of knowledge about referral procedures by dentists since 1985 using Medical Subject Headings (MeSH). The full-texts of all included articles were obtained and assessed for quality according to Newcastle–Ottawa Scale adapted for cross-sectional studies. The qualified articles were then studied thoroughly and results were extracted. Data were analyzed by Comprehensive Meta-Analysis software using meta-analysis and random effects model. Heterogeneity was determined by Q-test and I-square index.

Results: A total of 17 articles were included in the meta-analysis. The prevalence of lack of knowledge about referral procedures as a barrier was determined according to the meta-analysis of the number of relevant articles and was (55%, confidence interval: 0.48, 0.62).

Conclusion: The analysis of various studies revealed lack of information about referral procedures as an important barrier to report child abuse by dentists.

Key Words: Child abuse, dentist, knowledge, referral

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INTRODUCTION

The World Health Organization has defined child abuse or child maltreatment as parents or children's engagement or not engagement in any practice that violates the children's rights and put their decent life and dignity at risk.^[1] There are four types of child abuse:

1. Physical child abuse: It occurs when a child suffers or may suffer from a noticeable damage due to any harm from the parents or a guardian

2. Sexual child abuse: It is defined as an adult's misuse of a child for sexual pleasure
3. Emotional child abuse: It occurs when a parent or guardian frequently rejects or threatens a child
4. Neglect: It is parents or caretakers' neglect in providing the child's basic needs such as food, clothes, shelter, and medical care to the extent that the child's health

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and development are or may be harmed significantly. In dentistry avoiding effective dental care treatment by parents can be recognize as neglect.^[2,3]

Since the symptoms of child abuse and neglect often manifest in orofacial area, the dental team has a key role in identifying children subjected to abuse. Further, the child neglect is often followed by poor oral health.^[4,5]

According to the literature, a high percentage of child abuse occurs annually, which is not reported due to various reasons such as social and cultural factors. Hence, the oral treatment team needs to enhance their information in this regard, diagnose this abnormality, and report it consequently. This systematic review was aimed to explore the failure to take history as a barrier to reporting child abuse by dentists.

MATERIALS AND METHODS

In this systematic review and meta-analysis, PubMed, Embase, Scopus, Google Scholar, ProQuest, Cochrane, and ISI databases were searched for the cross-sectional articles in English languages reporting the barriers to reporting child abuse by dentists since 1985 using Medical Subject Headings (MeSH) and free search based on P: Population and O: Outcome as well as terms “OR” and “AND”. Since the articles investigated were descriptive, only P and O components of the PICO model were analyzed (P: Dentists, O: Failure to report cases of child abuse).

PUBMED:

(OR (child* AND (abuse OR neglect) AND dent* “child abuse”)).

EMBASE:

- #1. “Child abuse”
- #2. “Child OR children OR abuse OR neglect”
- #3. “Report OR not report”
- #4. “Child OR children OR abuse OR neglect” AND

“Barriers and report” AND “Failure to take history”

- #5. Dental neglect
- #6. Sexual child abuse
- #7. Physical child abuse
- #8. Emotional child abuse
- #9. #2 OR #3 OR #4OR #5 OR #6 OR #7
- #10. #1 AND #8

The extracted articles were first selected by two reviewer based on their title and abstract. The full text of relevant article were then obtained and studied separately by the main researchers and assessed and scored based on the Newcastle–Ottawa checklist. This checklist has 7 items with maximum score for the cross-sectional studies. Therefore, each article is scored from 0 to 10. Based on a point of distinction of 5, the articles with a score ≥ 5 were considered high quality articles. The first section of the checklist for cross-sectional studies consisted of 4 items with a total score of 5. The first item evaluated the adequacy of the sample size, the second item the correctness of sampling, the third item the adequacy of response percent, and the fourth item the quality of the measurement tool of the risk factors. The second section of the checklist included one item measuring comparability, with a score of 2. The third section of the checklist had two items with a total score of 3. The first item assessed the outcomes and the second item evaluated the statistical analyses [Table 1].

The inclusion criteria consisted of the cross-sectional studies in English languages reporting the frequency of barriers to reporting child abuse by dentists.

The exclusion criteria included:

- 1. Articles not compatible in terms of Population and Outcome, i.e., articles with study population other than dentists and those not investigating our expected outcome and merely reporting child abuse not the barriers to reporting child abuse

Table 1: Critical assessment checklist and the results of the critical assessments of the included articles

Author	Selection Max Five star	Sample size	Not-respondents	Comparability: (Max 2 stars)	Risk factor	Outcome	Statistical test	Score
Owais <i>et al.</i> (2009) ^[4]	R1: a* R2: a*	R1: a* R2: a*	R1: a* R2: a*	R1: b* R2: b*	R1: a** R2: a**	R1: a** R2: a**	R1: a* R2: a*	9/10
Ramos-Gomez <i>et al.</i> (1998) ^[6]	R1: a** R2: a*	R2: a* R1: a*	R2: a* R1: a*	R2: a** R1: a*	R2: a** R1: a**	R2: a** R1: a**	R1: a R2: a**	10/10
Mogaddam <i>et al.</i> (2016) ^[7]	R1: a* R2: a*	R1: a* R2: a*	R1: c R2: c	R1: a** R2: b*	R1: a** R2: a**	R1: b** R2: b**	R1: a* R2: a*	9/10
Azevedo <i>et al.</i> (2012) ^[8]	R1: a R2: a**	R1: a R2: a**	R1: b R2: b	R1: a R2: a****	R1: a R2: a****	R1: b* R2: b***	R1: a R2: a**	9/10
Kaur <i>et al.</i> (2017) ^[9]	R1:a* R2:a*	R1: b R2: b	R1: b R2: b	R1: b* R2: b*	R1: a** R2: a**	R1: a** R2: a**	R1: a* R2: a*	7/10

R1: Researcher 1; R2: Researcher 2

2. Articles not presenting the percentage of barriers to reporting child abuse and with no possibility of performing meta-analysis
3. Articles acquiring a score <5 after analysis of the given checklist.

Statistical analysis

Comprehensive Meta-Analysis software was used for the statistical analysis of data. Since the results of different studies do not have the same value, binominal distribution was used to estimate the variance of each study. Then, each study was given a weight inversely proportional to its variance. Heterogeneity of studies was determined by Q-test and I-square index. Given the significance of the I-square index and heterogeneity of studies, random effects model was used to combine the results. Publication bias was analyzed by funnel plot based on Begg and Egger’s tests. In funnel plots, relative ratio versus inverse squared standard error is presented. In case of bias in results, the funnel plot is asymmetric in the wider part of the funnel.

RESULTS

Numerous studies on child abuse were retrieved from the domestic and international databases, but many of

them were excluded from the study because they did not meet the inclusion criteria [Figure 1].

Finally, 5 articles that met the inclusion criteria and gained a score ≥ 5 from the checklist were included in the meta-analysis [Tables 1 and 2].

Figure 2 shows the results of heterogeneity test for failure to take history. As indicated, the Cochran’s Q test result was equal to 378.920 (df: 4), indicating a significant difference ($P = 0.0001$). On the other hand, the I-square index was 98.944. Thus, it could be concluded that failure to take history had a heterogeneous prevalence in 5 studies. In other words, there was a large difference among the findings of studies. Hence, random effects model was used to estimate the total prevalence of failure to take history.

Figure 3 summarizes the cumulative chart of failure to take history. As shown, the lowest prevalence was reported in the studies of Ramos-Gomez (1998) and Mogaddam (2016) and the highest prevalence was found in the study of Torriani (2012). The results of random effects model showed the prevalence of failure to take history was 24% (confidence interval: 0.50 and 0.09).

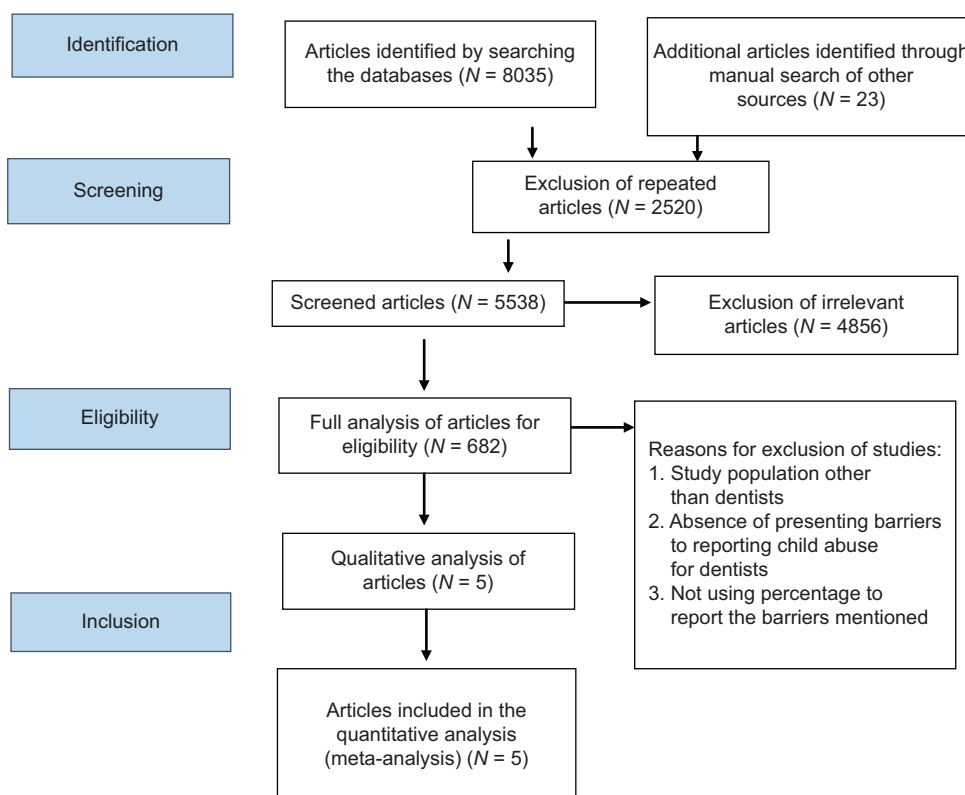


Figure 1: Selection procedure of studies included in the systematic review.

Table 2: Characteristic of studies included in the meta-analysis

Author Year	Country	Sample	Sex (male)	Sex (female)	n (%)
Owais <i>et al.</i> (2009) ^[4]	Jordan	342	225	117	55 (0.16)
Kaur <i>et al.</i> (2017) ^[9]	Moradabad	120	57	63	18 (0.15)
Azevedo <i>et al.</i> (2012) ^[8]	South Brazil	276			210 (0.76)
Mogaddam <i>et al.</i> (2016) ^[7]	Saudi Arabia	208	58	150	29 (0.14)
Ramos-Gomez <i>et al.</i> (1998) ^[6]	California	2005			281 (0.14)

Model	Effect size and 95% interval			Test of null (2-Tail)		Heterogeneity			Tau-squared			
	Number Studies	Point estimate	Lower limit	Upper limit	Z-value	P-value	Q-value	df (Q)	P-value	I-squared	Tau Squared	Standard Error
Fixed	5	0.198	0.183	0.215	-27.169	0.000	378.920	4	0.000	98.944	1.791	1.567
Random	5	0.237	0.087	0.503	-1.938	0.053						

Figure 2: Results of heterogeneity test for failure to take history.

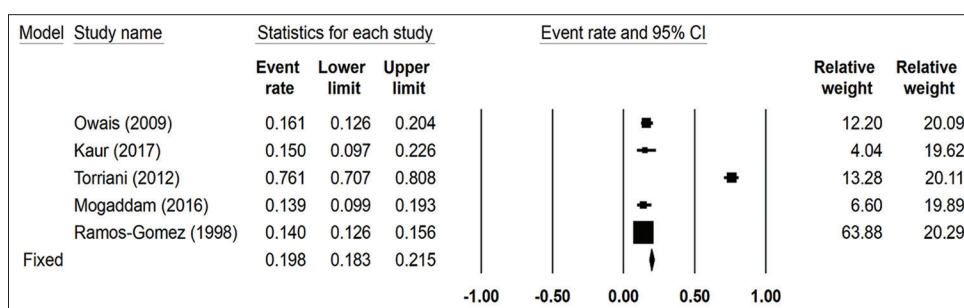


Figure 3: Cumulative chart of failure to take history.

DISCUSSION

A total of 5 studies conducted in various countries were recruited in this meta-analysis. The findings showed the barriers to reporting child abuse by dentists included failure to take history and others such as diagnostic uncertainty, fear of family violence against child.

The results of other studies conducted on populations other than dentists indicated similar cases as the present study. For instance, Lee *et al.* performed a study in Korea on emergency nurses and reported inadequate knowledge about child abuse as the most important barrier for reporting child abuse, while those undergoing child abuse education were regularly more inclined to report child abuse.^[10] In the present study, inadequate knowledge about child abuse was reported in four articles.^[9,11-13]

In the study of Herendeen *et al.* in the U.S. on pediatric nurses, the presence of vague history about child abuse was reported as a major factor involved in failure to report child abuse. It was also emphasized that nurses had to be trained sufficiently to be able to take a complete and clear history of their patients.^[14] In the

current study, five studies reported failure to take history as a barrier to reporting child abuse, failure to take history means the history of patients is not available which is different from communication skills.^[4,6-9]

Knowledge and attitudes among California dental care providers regarding child abuse and neglect the results have not shown this barrier^[15]. In the research performed by Louwers *et al.*, in the U.K. in the emergency department, practical problems, personal barriers, and insufficient communication skills were reported as barriers to reporting child abuse.^[16] These problems were not reported in the 5 articles analyzed in this meta-analysis.

In the study of Tiyyagura *et al.* in the U.S. in the emergency department, inadequate time, fear of unfair judgment, and lack of sufficient communication skills were reported as barriers to reporting child abuse,^[17] which were not reported in the 22 articles included in the present meta-analysis.

In a narrative review by Azizi among doctors and paramedics, the barriers to reporting child abuse were classified into four categories, including personal barriers, interpersonal barriers, organizational

barriers, and situational barriers. The instance mentioned in the personal barriers such as inadequate knowledge and in interpersonal barriers like fear of violence were in line with the results of the present study.^[18]

Studies have shown that different groups of health-care providers, including nurses, pediatric doctors, family doctors, and general practitioners are located in different levels with respect to reporting child abuse so that pediatric specialists are more sensitive and responsible in reporting child abuse.^[19] In studies conducted on dentists, very few cases of child abuse have been reported, which is justifiable considering the numerous barriers reported in the present study.^[2,3,5]

In a study by Kilpatrick *et al.*, 75% of dentists mentioned reporting child abuse was not part of their responsibility.^[20] Moreover, 63% of dentists in the study of Olatosi *et al.*^[21] Studies have reported lack of clinical strategies and instructions as one of the barriers ahead of health-care providers.^[3] This, however, was not found to be a barrier, which could be due to diversity of studies in different countries such as Denmark, Joran, Australia, England, and Scotland, most of which have clinical strategies for dentists to report child abuse.

CONCLUSION

The analysis of various studies revealed lack of information about referral procedures as an important barrier to reporting child abuse by dentists.

Suggestions

1. Enhancing the dentists' knowledge of correct diagnosis of child abuse cases, referral procedures of child abuse discovered, and dentists' responsibility in dealing with child abuse
2. Providing the dentists with social support with respect to referring the suspicious cases of child abuse.

A limitation of this study was that articles published in languages other than English were not included in the meta-analysis.

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Conflicts of interest

The authors of this manuscript declare that they have no conflicts of interest, real or perceived, financial or non-financial in this article.

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