ORIGINAL ARTICLE

# Child maltreatment: Cross-sectional survey of general dentists

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## Abstract

**Background:** Child abuse continues to be a social menace causing both physical and emotional trauma to benevolent children. Census has shown that nearly 50–75% of child abuse include trauma to mouth, face, and head. Thus, dental professionals are in a strategic position to identify physical and emotional manifestations of abuse. **Aim:** A cross-sectional survey was conducted to assess knowledge and attitude of dental professionals on the exigent issue of child abuse. **Methodology:** With prior consent, a 20-question survey including both multiple choice and dichotomous (yes/no) questions was mailed to 120 state-registered general dentists and the data collected were subjected to statistical analysis. **Statistical Analysis:** The overall response rate to the questionnaires was 97%. Lack of knowledge about dentist role in reporting child abuse accounted to 55% in the reasons for hesitancy to report. Pearson's Chi-square test did not show any significant difference between male and female regarding the reason for hesitancy to report and legal obligation of dentists. **Results:** Although respondent dentists were aware of the diagnosis of child abuse, they were hesitant and unaware of the appropriate authority to report. **Conclusion:** Increased instruction in the areas of recognition and reporting of child abuse and neglect should be emphasized.

**Key words:** Child abuse, child protection training, dentists, physical abuse

## Introduction

Child abuse was practiced in the form of infanticide among Greeks and Romans but was thoroughly masqueraded in archival societies. It was uncovered in 1962, with the conception of the term "battered child syndrome" to describe children presenting with numerous unexplained injuries.[1] It is arduous to get exact statistics of such vignettes as it is a secretive behavior and each territory compiles its own figures based on local definitions. Nevertheless, reporting levels do not mirror incidence levels.[2]

To aid in diagnosing and reporting of child abuse, below mentioned are some accepted definitions of the same:

- Child maltreatment, sometimes referred to as child abuse and neglect, includes all forms of physical and emotional ill treatment, sexual abuse, neglect, and exploitation that result in actual or potential harm to a child's health, development, or dignity[3]

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| **Website:** www.jfds.org | Quick Response Code |
| **DOI:** 10.4103/jfo.jfds_6_15 | |



**How to cite this article**: Kaur H, Vinod KS, Singh H, Arya L, Verma P, Singh B. Child maltreatment: Cross-sectional survey of general dentists. J Forensic Dent Sci 2017;9:24-30.

- The World Health Organization has defined child abuse as, "Every kind of physical, sexual, emotional abuse, neglect or negligent treatment, commercial, or other exploitation resulting in actual or potential harm to the child's health, survival, development, or dignity in the context of a relationship of responsibility, trust, or power" (World Health Organization, 1999).[4]

Most cases of child maltreatment fall into the three basic categories: (1) neglect, (2) physical abuse, and (3) sexual abuse.[5] The blemishing long-term effects of child abuse predispose victims to become violent adult offenders and facing adaptation problems in school and society.[2]

Interventional strategies targeted at resolving this problem face complex challenges.[6] Many surveys have shown that 50–77% of the abuse cases involve head and neck region, thus placing oral health-care workers in a strategic position to detect, diagnose, document, and report to appropriate authorities.[2] Due to incorporation of this subject into the curricula of undergraduate dental education of dental schools, there has been a recent rise in the awareness of dental health professionals regarding the same.[7-9] Despite this training, it is found that abuse is still being under-reported by health-care professionals, including the dental community.[10] The first documented evidence of dentists failing to report child maltreatment was reported by the American Dental Association in 1967, stating that among 416 reported cases of child abuse in New York State, none was reported by a dentist. Lack of knowledge of dentists in this area was documented as the reason for under-reporting.[11,12] Although this subject is vital, most of the professionals still ignore the correct attitude toward suspicious cases of abuse. Thus, the under-mentioned study was stipulated to analyze the level of knowledge and attitudes among dental professionals regarding child abuse to identify the barriers for the same.

## Methodology

The study was conducted after obtaining approval from the Ethical Committee of the Institute. Only general dental practitioners with active state dental licensure were included in this study. However, dentists without state licensure were excluded. While the intent was to maximize the representativeness of the sample, the results analyzed were only those from the dentists who responded. Prior to the distribution of questionnaire, written consent was obtained stating that responses would be kept anonymous and confidential. A 21-question survey was distributed to 120 general dentist of Moradabad city. The questionnaire consisted of multiple choice as well as dichotomous yes–no questions. No identification was requested for either the name or location of those completing the survey.

The first part of the questionnaire consisted of questions on the demographics of the responding practitioner. The next section consisted of questions designed to survey the practitioner's ability to distinguish between accidental versus inflicted injury and information related to the practitioner's reporting practices, risk factors, manifestations and indicators of physical abuse, the history of suspected child abuse cases from their practice, change in behavior of such vignettes, actions taken for suspected cases, and the number of suspected child abuse and neglect cases observed in the last 5 years. The next section mainly included questions regarding barriers that potentially interfere with the reporting of suspected cases of child abuse and neglect. Data received were decoded, tabulated, and recorded in an Excel database and analyzed using the Statistical Package for Social Sciences (IBM SPSS) version 18 software. (SPSS Inc. Released 2009. PASW Statistics for Windows, Version 18.0. Chicago: SPSS Inc.).

## Results

Questionnaire responses were tabulated, and percent frequency distributions for responses to each item were computed. Pearson's Chi-square test and Fisher's exact test were used to analyze two categorical or nominal variables. The level of significance was set at $P < 0.05$.

There were 1914 responses to the questions to the questionnaire, yielding a response rate of 96.7%. Questions concerning the demographics of the practitioner revealed that out of respondent general dentists, 47% were male, 52% identified themselves as female. Nearly 42.2% (Number = 46) of the dentists were practicing in a city or suburban area and 55% of the respondents were associated with an institution [Table 1].

Next section contained questions pertaining to knowledge and experience of dentists showed that nearly 60% of the dentists have come across at least 1 case of child abuse in their practicing experience. Nearly 89.7% of them were able to distinguish between accidental injury and physical abuse. Nearly 68.2% were aware of any law to prevent child abuse [Table 2]. Low socioeconomic status (77.1%) was recognized as a major group facing the same with a larger percentage of female children (69.5%) inflicted with the same [Graph 1].

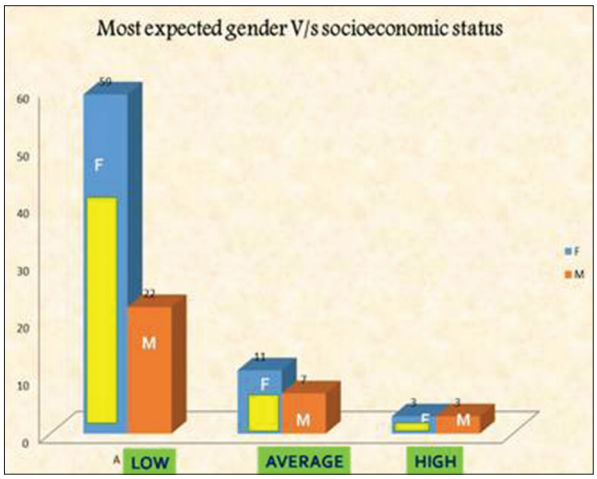
The face was identified as the most common (68.9%) and neck and legs as least common (1%) body part and with burns being the most type of injury involved (40.4%) [Graph 2]. Majority of the abusers were found to be parent (33.7%) and relative (21.2%). Nearly 45.5% of the dentists found such children to be uncooperative in the dental clinic [Table 2].

The last section consisted of the attitude of dentist toward reporting and presented barriers for the same. Nearly 46.3% of the dentists believed to report such vignettes to police [Table 3]. Lack of knowledge about dentists role

**Table 1: Demographics**

| Variables | Percentage |
|---|---|
| Age (years) | |
| >30 | 51.4 |
| 26-30 | 44 |
| 22-25 | 4.6 |
| Gender | |
| Male | 47.2 |
| Female | 52.8 |
| Practicing in | |
| City | 36.7 |
| Suburban | 5.5 |
| Institutional | 55 |
| Both | 2.8 |
| Experience (years) | |
| >9 | 94.5 |
| 5-9 | 1.8 |
| 1-4 | 3.7 |
| Hours of educational training for CA were given in curriculum (h) | |
| None | 54.1 |
| 1 | 34.9 |
| 2 | 4.6 |
| >2 | 6.4 |

CA: Child abuse




**Graph 1:** Most expected gender versus socioeconomic status for child abuse

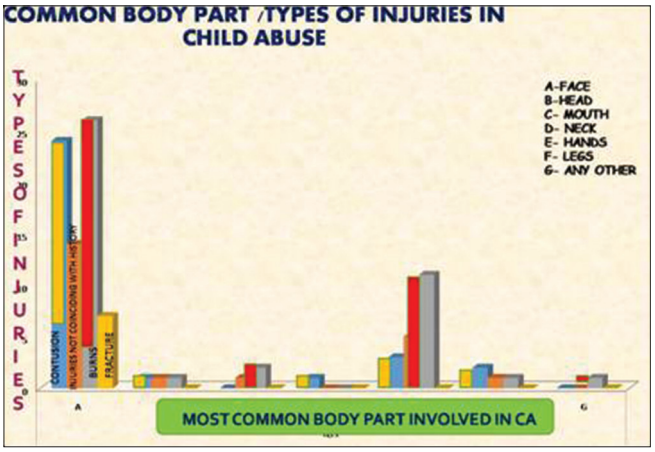
in reporting (51.4%) was identified as the major barrier in reporting whereas 34.6% told lack of adequate history and only 14% were apprehensive about its effect on their practice [Graph 3]. Almost 53.8% of them believed that their legal obligation is to report only diagnosed cases of child abuse [Graph 4].

More years of experience revealed greater ability to distinguish between accidental injury and physical abuse [Graph 5]. Applying Pearson's Chi-square test among gender of the respondent and commonly observed gender of abused children showed significant result [Table 4].

**Table 2: Knowledge/experience of dentists**

| Questions asked | Percentage |
|---|---|
| Cases of CA come across | |
| None | 32.7 |
| 1-5 | 60.7 |
| 6-10 | 4.7 |
| >10 | 1.9 |
| Ability to distinguish between AI and CA* | |
| Yes | 89.7 |
| No | 10.3 |
| Awareness of any law to prevent CA | |
| Yes | 68.2 |
| No | 31.8 |
| Age group and abuse rates (years) | |
| <3 | 11.4 |
| 3-6 | 38.1 |
| 7-12 | 49.5 |
| >12 | 1 |
| Commonly observed abuser | |
| Parent | 33.7 |
| Teacher | 24 |
| Elder sibling | 1.9 |
| Relative | 21.2 |
| Unknown | 18.3 |
| Expected/observed behavior for such children in dental clinic | |
| Cooperative | 24.8 |
| Uncooperative | 45.5 |
| Aggressive | 5.9 |
| Stoic | 23.8 |

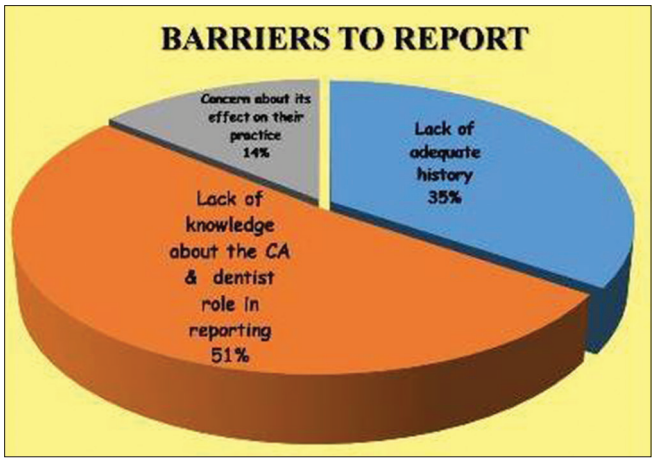
*AI: Accidental injury, CA: Child abuse



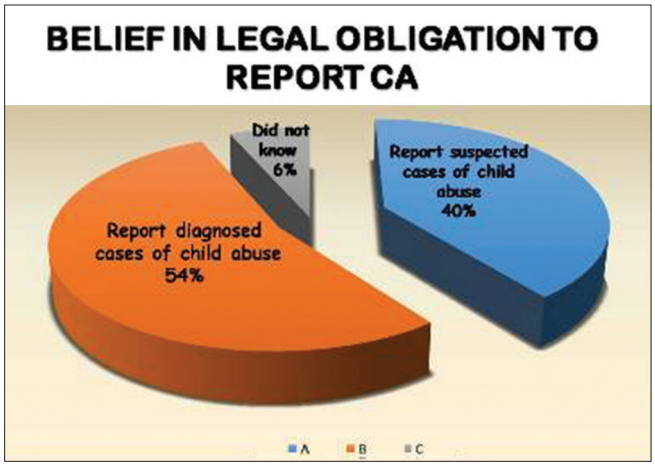

**Graph 2:** Common body part versus types of injuries in child abuse

## Discussion

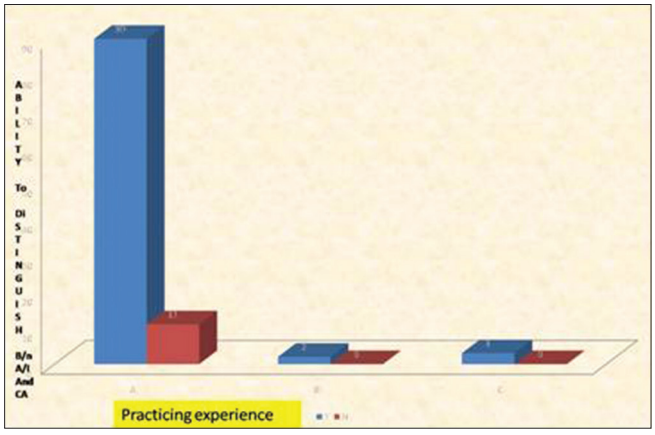
Physical maltreatment to young children can vary from mild (a few bruises, welts, scratches, cuts, and scars), moderate (numerous bruises, minor burns, and a single fracture), or severe (large burn, central nervous system injury, multiple fractures, and other life-threatening




**Graph 3:** Barriers noted to report child abuse




**Graph 4:** Belief in legal obligation to report child abuse




**Graph 5:** Practicing experience versus distinguishing ability of dentists

injury).[13] Since the multitude of these injuries involves orofacial region, dentists can be the foremost to detect signs of physical abuse, sexual abuse, health-care neglect, dental neglect, and safety neglect. Nevertheless, the global statistics have shown under notification of the suspicious cases which might be due to the lack of information regarding the diagnosis and knowledge about the obligation of notifying

**Table 3: Attitude of dentists**

| Questions asked | Percentage |
|---|---|
| Likelihood of agency to report | |
| To police | 46.3 |
| To parents | 25.9 |
| Childline help number | 26.9 |
| Any other | 0.9 |
| Wish to counsel victim or abuser | |
| Yes | 95.4 |
| No | 4.6 |
| Wish to attend any kind of educational program | |
| Yes | 99.1 |
| No | 0.9 |

**Table 4: Applying Pearson's Chi-square test to compare genders among respondents and abused child**

| Crosstab count | | | |
|---|---|---|---|
| **Variables** | **Gender of respondent** | | **Total** |
| | **Male** | **Female** | |
| Gender of abused child | | | |
| Female | 26 | 45 | 71 |
| Male | 22 | 10 | 32 |
| Total | 48 | 55 | 103 |
| Pearson's Chi-square test | | 9.151 | |
| *P* | | 0.002 | |

$P<0.05$ significant

suspected cases among various health professionals.[14] Thus, a cross-sectional survey was conducted to obtain information regarding the dentists' knowledge and attitude/perception regarding the vital issue of child abuse. The study consisted of a self-report questionnaire, ensuring the confidentiality of the questionnaires, thereby granting more confidence and high response rate.[15] Within the limitations of this study, the results provided an insight regarding the knowledge/experience and attitudes of general dentists of Moradabad city.

The response rate of the present study was comparatively higher (96%) to previous studies 38%[5] and 68%.[15]

## Knowledge/experience

The rate of detecting cases of child abuse by respondents in our study was higher (60%) in contrast to previous studies as 42%,[16] 50%,[17] and 50%[5] and almost similar: 59%,[4] 78.7%[15] by 65%.[18] Increased awareness among dentists can be cited as the reason for a greater detection rate of such cases.

Among 89.7% of the respondents, capable of diagnosing abuse vignettes, majority (55%) were associated with the academic institute. This response is akin to the study done by Al-Dabaan *et al*. in which 41% were university-associated dentists.[4] The rationale suggested for the same is the fact that guild affiliated dentists are exposed to a higher number of patients and are aptly equipped to deal such a situation.[15]

In the present survey, 68.2% of the dentists were aware of any law to prevent child abuse in contrast to the study by Al-Buhairan *et al*. where only 22% of the dentists were conscious of United Nations Convention of the Rights of the Child Article 19, or national policies addressing child maltreatment (United Nations Human Rights Convention on the Rights of the Child, 1989). Ignorance about the respective laws might contribute to the lower incidence of reporting.[4]

Synonymous to studies by Sonbol *et al*. - 57%,[17] 74.6%,[4] our study also revealed that children of low socioeconomic status (77%) more commonly predisposed to physical maltreatment. Parent unemployment, poverty, and child maltreatment have been identified as risk factor for the same. Nevertheless, it is imperative for health-care providers to recognize that child maltreatment is not rare in children from middle and high socioeconomic strata.[4]

Contrary to the previous studies by Naidoo and the United Kingdom National Society, where more than 50% of the maltreatment cases occurred below 4 years of age, with boys being more commonly involved; present survey showed that children in the age group of 7–12 years (49%) and higher number of females (69%) more susceptible to the misdemeanor.[19] Biased social rituals might pave females more prone to the vultures of the crime.

The dentist should be cognizant with signs of child abuse as any injury with inconsistent history might finger toward physical aggression going on with the child.[14] Most common type of child abuse injuries reported in the present survey was burns (40%) followed by orofacial injury (38.1%). Contrasting results were obtained in a survey of Brazilian endodontists. where only 27% of the professionals, cited the lesions in head, neck, face, and mouth, while hematomas (48%) and behavior changes (48%) were the most signs reported.[14] In some previous studies, bruises on the soft tissue of cheek and neck 81%[4,16] bruises on the toddler's forehead 68%,[4] and areas overlying bony prominences 79.2% Hashim and Al-Ani[20] were notified as the prevalent signs of victims.

Congruent to Winship, the present study also affirmed parent (33.7%) to be most probable abuser followed by relative (21.2%). While mother has been found to be the perpetrator in most of the cases; step-parents and sibling offenders are also not prodigious.[19] In some previous studies, bruises on the soft tissue of cheek and neck 81%[4,16] bruises on the toddler's forehead 68%,[4] and areas overlying bony prominences 79.2% were notified as the prevalent signs of victims by Hashim and Al-Ani *et al.*

## Attitude

### *Likelihood of agency to report*

In precedent studies, professionals liked to discuss the matter within their professional circle or social worker.[4] In the mentioned survey, 46.3% of the respondents believed it to report to police and only 26.9% of the respondents to the childhood helpline number, which is contrary to previous studies where contact of police was considered least desirable by most of the professionals.[4,21] This reveals that majority of the dentists are unaware of the appropriate agency to report and the presence of communication gap between social welfare agencies and health-care workers.

### *Barriers to report*

Lack of knowledge about the dentist role in reporting child abuse was canvassed as the most common barrier followed by lack of adequate history, and least was their concern about the effect on their practice.[22-23] Conversely, some of the barriers reported in prior investigations have been cited in Table 5.

Perhaps, dentists need to be better informed about how to recognize and gather information to explain children's unexplained physical wounds or emotional behaviors.

### *Legal obligation to report*

In the present study, more than 50% of dentists believed their legal obligation is to report diagnosed cases of child abuse, 40% knew to report suspected cases and only 6% of the respondents did not know of their legal obligation. Contrast results were revealed by Bsoul *et al*.'s past survey

**Table 5: Barriers to report cases of child maltreatment**

| Barriers to report | Author | References |
|---|---|---|
| Lack of adequate knowledge about abuse and dentists role in reporting | Bsoul *et al.* | [5] |
| | Azevedo *et al.* | [15] |
| Lack of adequate history | Azevedo *et al.* | [15] |
| Fear of violence or unknown consequence toward the child | Al-Dabaan *et al.* | [4] |
| | Azevedo *et al.* | [15] |
| Lack of confidence in child protection services and their ability to handle such sensitive cases | Al-Dabaan *et al.* | [4] |
| | Azevedo *et al.* | [15] |
| Lack of certainty about the diagnosis | Azevedo *et al.* | [15] |
| | Cairns *et al.* | [22] |
| | Harris *et al.* | [23] |
| Lack of knowledge of referral procedures | Sonbol *et al.* | [17] |
| Fear of negative effects on the child's family | Al-Dabaan *et al.* | [4] |
| | Azevedo *et al.* | [15] |
| Family violence against dentists | Al-Dabaan *et al.* | [4] |
| Confidentiality associated with reporting can cases | Azevedo *et al.* | [15] |
| | Owais *et al.* | [16] |
| | Kilpatrick *et al.* | [24] |
| Fears of a negative impact on dental practice, fear of litigation | Al-Dabaan *et al.* | [4] |
| | Azevedo *et al.* | [15] |
| Uncertainty about the consequences of reporting | Azevedo *et al.* | [15] |
| "It is not the dentist's responsibility" | Azevedo *et al.* | [15] |

where the majority of the responding dentists (84%) were aware of their legal obligation to report suspected cases of child abuse.[5] A similar trend was followed in antecedent works where fewer dentists had recognized and reported suspicious cases of child physical abuse throughout their professional life.[3,24-26] In a Californian study, while 16% had suspected cases of child abuse only 6% genuinely reported to authorities.[27] A former exclusive study by Granville-Garcia *et al*. showed most (89.0%) suspected cases being reported.[18]

### Child protection training

In accord to the present survey, 54% of the respondents reported that 0 h of education was allocated to this topic during training while 34.9% of the respondents told that only 1 h was allocated. Harmoniously in prior studies, only 1.9% of the dental school professionals received child protection training.[28]

These findings suggest that most predoctoral dental programs in many countries devote an inadequate level of instruction for dentists to diagnose and refer such cases. This level of instruction should be incremented to recognize the signs of abuse and how to report it.[5]

In comparison to prior studies by Al-Dabaan *et al*. and Al-Buhairan *et al*., where 92.9% and 69.3% of the respondents wished to attend child protection training[29] in the aforementioned survey, 99.1% of the respondents wanted to attend training for the same.

Therefore, from erstwhile mentioned statistics, it can be deduced that professionals carry an inadequate level of information to identify and diagnose child abuse and if able to diagnose were benighted of the appropriate agency to report the matter.

### Limitations

A large percentage of respondents in this study were from academics. Therefore, the results obtained might not necessarily be representative of the total population of dentists working in Moradabad district.

## Conclusion

1. Under-reporting of child abuse is still a significant problem in the dental profession
2. Children witnessing violence are at an increased risk of growing up to be abusers themselves. Hence, we as health professionals can play proactive role in breaking intergenerational vicious cycle of violence
3. Continued efforts by educational and government institutions should be brought to bear on this significant social and health-care problem, whether through dental school curricula or continuing education courses.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

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