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Original Article

Knowledge, Attitude and Practice of Child Abuse Diagnosis and Reporting Among A Group of Egyptian Dentists: A Cross-Sectional Study

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Abstract

Aim: Child abuse and neglect is a challenging issue that faces all communities. In this study we aimed to assess the knowledge, attitude and practice of a group of Egyptian dentists as regards to child abuse and neglect.

Methodology: A cross-sectional study performed in the Faculty of Dentistry, Cairo University during the school year (2022-2023). The data has been gathered through a self-administrated structured questionnaire completed by 197 Egyptian dentists. The collected data was subjected to statistical analysis.

Results: More than 80% of the respondents were aware of the types of abuse, and 50% of them recognized all manifestations of child maltreatment. About 82.2% of the respondents believed that dentists play a significant role in perceiving and reporting child maltreatment cases. 66% of dentists suspected cases of maltreatment. However, only 8.1% reported maltreatment cases last year. The most common reason for hesitancy of reporting was lack of obtaining adequate history and the fear of the consequences on the children.

Conclusion: In high caries risk patients, caries preventive regimen based on herbal toothpaste has similar clinical performance to those based on fluoride toothpaste and varnish along three months' follow-up.

Clinical relevance: Most of the Egyptian dentists within the studied group have moderate knowledge regarding child maltreatment, diagnosis and reporting. Yet, the need for raising the awareness of the Egyptian dentists about their pivotal role in defending against child abuse is demanding.

Keywords: Child abuse; Child neglect; Child maltreatment; Child protection; Dentists; Egypt

1. Introduction

Child abuse (CA) is defined as "Any act of commission or omission that endangers or impairs child's physical, sexual, or emotional health and development". Child abuse and neglect (CAN) may arise in any family, and it is unconfined to any geographic, ethnic, or socio-economic background. CA includes any physical, psychological, sexual, and domestic violence. Neglect includes any form of physical, emotional, medical, dental, supervisional, or educational neglect. Together both conditions are called child maltreatment (CM) **(Aliki, *et al.*, 2023)**.

According to the World Health Organization (WHO) report (2022) at least 40-150 children, under the age of 18, were subjected to CAN that led to death due to abuse. The highest estimate was reported in infants and toddlers between zero to four years old. Three in four kids, or 300 million toddlers between the ages of two and four frequently endure physical punishment and/or psychological abuse. Repercussions of CM include lifelong physical and mental health disability, as well as the social and vocational outcomes that can decelerate countries' economic and social growth. An abused child will probably abuse others when they become adults. So that, violence is passed down from one generation to the next. Therefore, it is crucial to breach this cycle of violence to create positive multi- generational impacts **(WHO, 2020)**.

In Egypt, the disaster of CAN is more profound. Although law number 126, in the Egyptian Constitution assures a child's right to be shielded from all kinds of violence **(Egypt - Law No. 126 of 2008)**, yet according to United Nations Children's Fund (UNICEF) report in 2014, the Demographic Health Survey (DHS) in Egypt, showed that 93% of kids aged 1 to 14 years old have been subjected to violent disciplinary practices, including psychological violence and/or corporal punishment **(Child Protection | UNICEF Egypt)**. Moreover, no law declares the compulsory reporting of child maltreatment and the retributions of non-reporting **(Saeed *et al.*, 2021)**.

Dentists are supposed to be in a perfect position to detect CM, since 50-75% of physical abuse injuries happen in the head and neck region. Abusive parents tend to go to different physician each time to avoid being reported, but they do not fear the dentist and usually go to the same dentist. Dentists can evaluate the child psychological state, and detect negligence from the general state of the child clothing and his/her oral health. Moreover, if they find a sign of sexually transmitted disease in the oral cavity, they can suspect sexual abuse and negligence **(Aliki, *et al.*, 2023)**.

In most of cases, the most important causes of not reporting child abuse are lack of adequate history, inability, and hesitation in detecting the abuse, worries to affect the clinic reputation, concerns about the consequences of reporting on the child and his family, and unawareness of the children protection guidelines in their workplace. The purpose of this study was to assess these parameters among a sample group of Egyptian dentists **(Owaidah *et al.*, 2022)**.

2. Materials and Methods

This study was conducted in Faculty of Dentistry, Cairo University. Hence, ethical approval was obtained for this study from the Dental Research Ethics Committee Faculty of Dentistry, Cairo University. The protocol was registered on the clinical trial website**,** http://www.clinicaltrial.com.gov, with protocol ID: 14422017451433, clinical trail.gov ID: NCT04117971, and was verified on October 2019.

An online, self-administered questionnaire was distributed via social media channels. Consent was obtained through an introductory page at the beginning of the form describing the aim of the questionnaire, and assuring that the answers are confidential and anonymous. Data was collected for 3 months from November 2022 to January 2023. The replies of the dentists who were not involved in the

sample were excluded, and the data was collected in excel sheet and was analyzed by one analyst.

The survey was intended to be distributed by hand to the dentists, but due to Covid-19 outbreak, it was hard to gain access to clinics to distribute the questionnaire. Furthermore, this decision was made to avoid cross contamination of papers and pens and thus exposing the responders and the researcher to the risk of infection.

The questionnaire was based on five previous questionnaires done in Northern Ireland **(Lazenbatt and Freeman, 2006)**, Jordan **(Issa *et al.*, 2009) (Sonbol *et al.*, 2012)**, India **(Kirankumar *et al.*, 2011)**, and Saudi Arabia **(Mogaddam *et al.*, 2016)**. The Questionnaire contained 48 questions splitted into four segments.

The questionnaire had four segments and contained both closed and open-ended questions. It aimed to assess the knowledge attitude and practice of dentists regarding child maltreatment knowledge and diagnosis. In the first section demographic details were collected such as age, gender, and educational level. The second section consisted of seventeen trichotomous questions (Yes/ No/ Don't know) to assess knowledge about types of CM, signs and symptoms of CM, legal and ethical obligations of dentists to report CM, and the right place to report a case.

The third section consisted of fifteen trichotomous questions to assess dentists' attitude about diagnosis and reporting of child abuse, the questions were about ability to identify cases, importance of dentist role in CM identification, and reasons influence dentists' decision to report suspected maltreatment cases. The fourth section was composed of five trichotomous and multiple choices questions about number of suspected cases, and actions taken after suspecting a case.

3. Results

3.1. Demographic Characteristics of the responders:

Out of 197 participants; there were 129 females and 68 males, with a statistically significant difference between different specialties as demonstrated in table (1). The mean age of participants was 31.67±4.88 years, as shown in table (1). Most of the participants (54.8%) were graduated between years 2010 to 2014. There were seven different specialties, where the most frequent was Pediatric Dentistry (26.4%), as shown in table (1) and figure (**a**).

Out of 197 participants; there were many different work places; as shown in table (1). The percent of the respondents work in private clinics or hospitals were 20.3 %, 16.7% work at the Ministry of Health, while 27.9% work at both private and public sectors. In regard to the number of pediatric patients seen on a weekly basis, most dentists had seen 1-5 patients per week.

3.2 Knowledge about types of child abuse:

Out of 197 dentists from different specialties; 97%, 91.4%, 94.4%, and 81.2% believed that physical, emotional, sexual, and neglect is considered as forms of child abuse respectively, with a statistically significant difference between different responses as shown in figure (**b**).

Knowledge about signs and symptoms of child abuse and their obligations towards reporting: The percentages of dentists who agreed that bruises, repeated injuries, neck bruises, burns, bites, petechiae, neglect, vague history, low socioeconomic level, abused child could tell someone else, and confront parents were as following (86.3%, 71.6%, 47.2%, 89.8%, 79.7%, 41.1%, 89.3%, 74.6%, 42.6%, 15.7%, and 32% respectively).

Table (1) Demographic characteristics of the study participants (n=197)

	Frequency (No.)	Percentage (%)	P-value
Gender			
Female	129	65.5	
Male	68	34.5	**0.004** [a]
Age (mean±SD)	31.67±4.88		0.479 [b]
Median, 25th percentile, 75th percentile	31, 29, 33		
Years of practicing			0.265 [b]
(mean±SD)	1.84±.71		
Median, 25th percentile, 75th percentile	2.00, 1.00, 2.00		
Speciality			
Endodontics	25	12.7	
Orthodontics	16	8.1	
Pediatric dentists	52	26.4	
Periodontics	17	8.6	**<0.001** [a]
Prosthodontics	27	13.7	
Restorative Dentistry	36	18.3	
Surgery	24	12.2	
Type of study			
Residents	38	19.3	
Master's	109	55.3	0.748 [a]
PhD	32	16.2	
Staff	18	9.2	
Place of work			
Army	6	3.0	
Army, Private	7	3.6	0.7 [a]
Ministry of health	32	16.2	
Ministry of health (NRC)	1	0.5	
Ministry of health, Private	55	27.9	
Ministry of health, University	1	0.5	
Private	40	20.3	
University	24	12.2	
University, Private	31	15.7	
Number of pediatric patients per week			
None but had in the past			
1 - 5	47	23.9	
6 - 15	85	43.1	
16 - 25	41	20.8	**<0.001** [a]
> 25	11	5.6	
	13	6.6	

a: chi-square test. b: Kruskal wallis test. Significant level ($p \leq 0.05$).

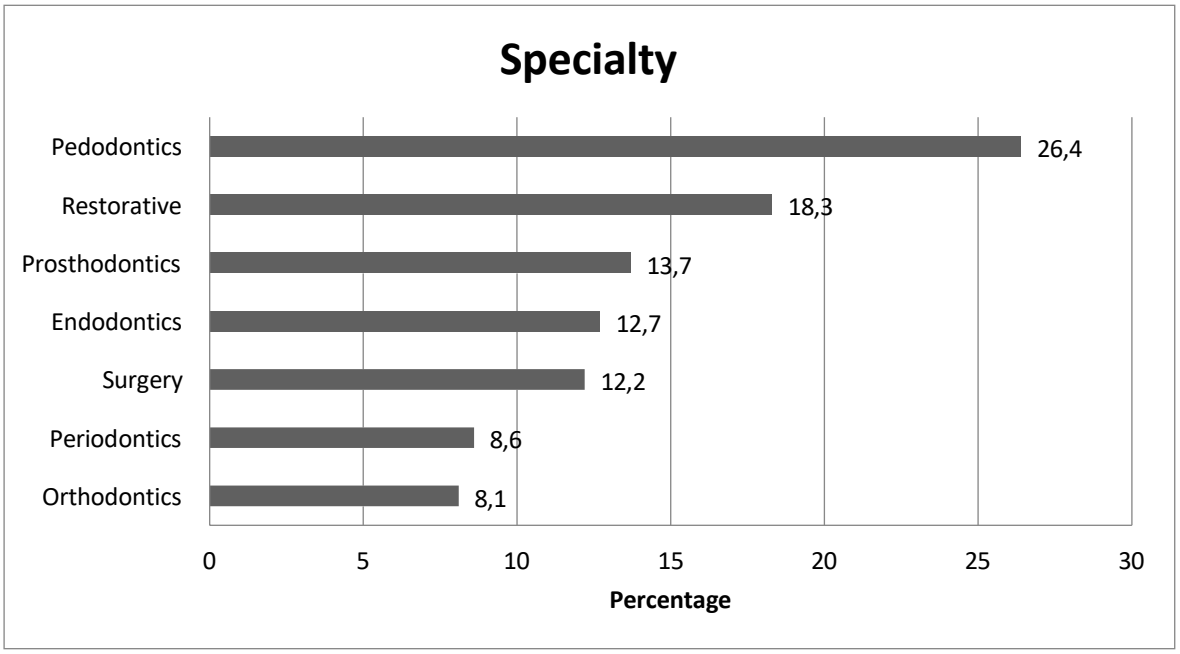

Figure (**a**) Specialty distribution among study participants

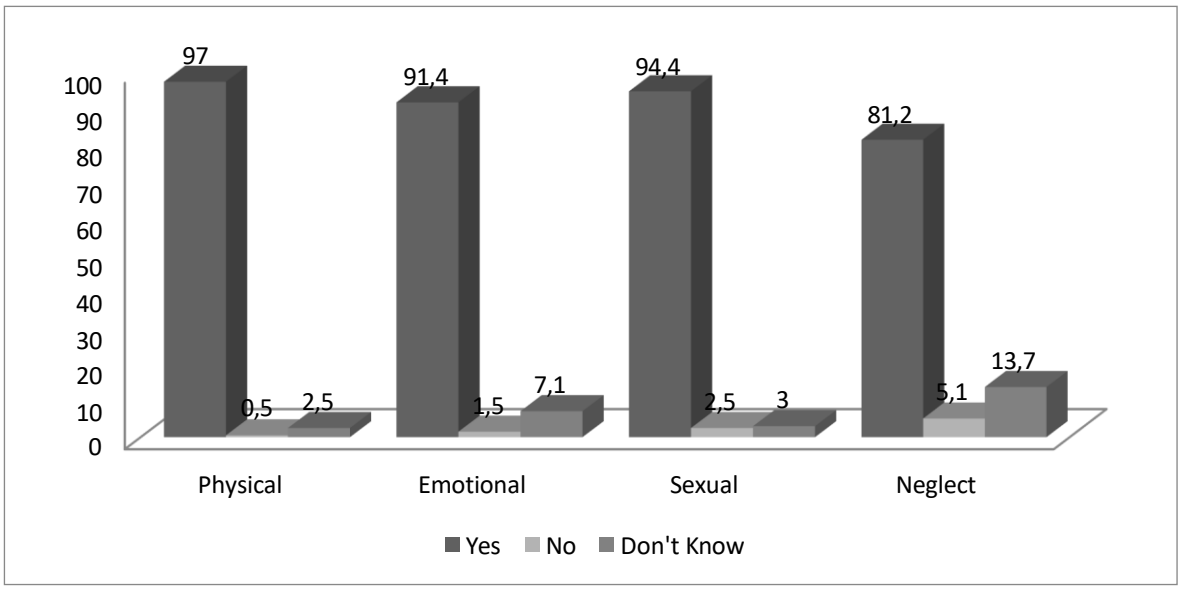

Figure (**b**) Knowledge about types of child abuse.

Table (2) Reasons of hesitancy for reporting among study participants (n=197). (If you were ever hesitant to report a suspected case of child abuse, which of the following would influence your decision for reporting a suspected case)

	Frequency (No.)	Percentage (%)	P-value
Lack of adequate history			
Yes	160	81.2	
No	27	13.7	0.21 [a]
Don't know	10	5.1	
It is not the dentist responsibility			
Yes	29	14.7	
No	147	74.6	**<0.001[a]**
Don't know	21	10.7	
Concerns about confidentiality			
Yes	111	56.3	
No	59	29.9	0.062 [a]
Don't know	27	13.7	
Uncertainty about the signs and symptoms of abuse	141	71.6	
Yes	44	22.3	0.098 [a]
No	12	6.1	
Don't know			
Unsure about consequences of reporting			
Yes	140	71.1	
No	41	20.8	0.364 [a]
Don't know	16	8.1	
Possible effects on work			
Yes	86	43.7	
No	89	45.2	0.072 [a]
Don't know	22	11.2	
Fear of litigation			
Yes	85	43.1	0.098 [a]
No	85	43.1	
Don't know	27	13.7	
Hostility of some families			
Yes	128	65.0	
No	43	21.8	0.722 [a]
Don't know	26	13.2	
Possible effects on child's family			
Yes	102	51.8	
No	87	44.2	0.103 [a]
Don't know	8	4.1	

Possible consequences on the child			
Yes	158	80.2	
No	34	17.3	0.189 [a]
Don't know	5	2.5	
Availability of time			
Yes	62	31.5	
No	121	61.4	0.055 [a]
Don't know	14	7.1	
No legal obligation to report suspected cases			
Yes	107	54.3	
No	64	32.5	0.306 [a]
Don't know	26	13.2	

a: chi-square test. Significant level ($p \leq 0.05$).

Dentists were asked about their legal, ethical and reporting role towards child abuse; 21.3% believed they have a legal obligation to report all suspected cases, while 32.5% believed there is an ethical obligation to report all suspected cases.

3.3. Attitude towards child abuse diagnosis and reporting of child abuse:

Upon asking dentists the following question (If you were ever hesitant to report a suspected case of child abuse, which of the following would influence your decision for reporting a suspected case), answers were illustrated in table (2), with a statistically significant difference (p-value<0.001) that most dentists (74.6%) thought that reporting child abuse is the dentist role. **3.4.**

Practice of Child abuse reporting:

About half of dentists (55.8%) didn't suspect cases of child abuse in the last year, 37.6% suspected at least a case of CM during last year, while 6.6% didn't know if they faced a CM case or not. However, confirmed cases were few, 36% of dentists had less than ten confirmed cases in their work place. The vast majority of dentists (90.9%) didn't report any case of child abuse. This was also associated with 77.7% of dentists saying that their workplace didn't provide them with a protocol to be followed when a child is suspected to be abused.

4.Discussion

The present study was an observational cross-sectional study. It was conducted in the Faculty of Dentistry, Cairo University during the school year 2022-2023 to assess knowledge, attitude, and practice of a group of Egyptian dentists from different specialties and educational levels regarding child maltreatment diagnosis and reporting. Different specialties as well as different educational and age groups were included to decrease the effect of variables (age, years of practice, specialty, educational level).

4.1. Knowledge about types of child abuse:

Regarding identifying types of abuse, 97% of dentists agreed that physical abuse was a form of CM, 91.4% of respondents identified emotional abuse as a type of maltreatment, 94.4% of dentists chose sexual abuse as a type of CM. As for neglect, 81.2% of respondents agreed that its type of CM. This is in accordance with **Mohanan, *et al.*, 2020** where most of the respondents (80%) had sufficient recognition of different types of CAN, which involved physical, sexual and emotional abuse, in addition to neglect, in the questionnaire distributed.

Regarding legal obligation to report cases of CM, 21.3% chose that all suspected cases of child abuse should be reported which is the correct answer, while 15.7% preferred reporting known cases only. 18.8% of participating dentists chose that there is no legal obligation; this percent is way lower than **Issa *et al.*, 2009** where 44% of dentists believed they had no legal obligation. 20.8% chose counseling the families and reporting suspect cases, 20.3% chose to counsel families and report known cases of child abuse, while only 3% chose to counsel families involved in child abuse.

As for the ethical obligation to report cases of CM, 32.5% of dentists chose the correct answer which is reporting all suspected cases of child abuse, while only 5.1% thought that there was no ethical obligation to report CM cases. This percentage is lower than **Issa, *et al.*, 2009** where 20% of the participants thought they had no ethical obligation towards reporting cases of CM.

4.2. Attitude towards child abuse diagnosis and reporting of child abuse:

Regarding attitude of dentists about diagnosis and reporting of CM, 58.9% of respondents said they are able to identify cases of CM. This is in accordance with **Mogaddam, *et al.*, 2016** where 77% of the respondents though they had the ability to recognise a case of child maltreatment when they see it. The percentage of respondents who think it is hard to identify child maltreatment was 53.8%. This result is in accordance with **Issa, *et al.*, 2009** where two thirds of the participants said it is difficult to identify child maltreatment.

As for reasons behind hesitancy to report CM cases, lack of adequate history was chosen by 81.2% of respondents. This result is higher than **Kural, *et al.*, 2020** where the percentage of dentists was 45%. Concerns about confidentiality was a reason behind hesitancy to 56.3% of participants. This result is higher than **Mohanan, *et al.*, 2020** where only 9.8 % of the responding dentists agreed with this reason.

Lack of adequate history was the highest agreed on hesitancy reason by 81.2%, followed by possible consequences on the child by 80.2%, doubts about the signs and symptoms of abuse 71.6%, and unsure about consequences of reporting 71.1%. This is in accordance with **Issa, *et al.*, 2009** where the most chosen reason for hesitancy were lack of adequate history (76%), uncertainty about signs and symptoms of abuse (73%), and fear of consequences of the child (66%).

However, it is different from **Dimitrova, *et al.*, 2021** where the participants chose lack of knowledge of the procedure to report (40.4%), fear of consequent violence against the child (23.4%), and fear of consequences for the child when the pertinent organizations interfere (12.8%). Among Norwegian dentists and dental hygienists, 90.4% reported that one of the main reasons of hesitancy was that they were unsure of their own assessment of cases. And their second most chosen reason was that they did not have adequate knowledge about child abuse and neglect **(Bjørknes *et al.*, 2019)** .

4.3. Practice of Child abuse reporting:

The total percent of dentists who suspected cases was 66%, this percentage is higher than **Buldur, *et al.*, 2022** where only 21.83% of respondents only suspected one case of CM. The participants who said that they have never confirmed any case of CM in their workplace were 51.8%, while 36% said that they confirmed less than 10 cases, 1% stated that they confirmed more than 10 cases of maltreatment in their workplace, and 3.5% confirmed more than 25 cases, and 7.6% couldn't remember the number of confirmed cases.

From the results of the current study, some strategies should be implemented to increase the reporting rate. Program similar to Prevent abuse and neglect through dental awareness (PANDA), that was founded in 1992 in Missouri, USA to address the issue of dentists not reporting child abuse suspected cases, should be created in Egypt to train dentists all over Egypt.

To overcome the hesitancy in reporting and give the dentists the confidence to diagnose and report CM cases, undergraduate curriculums should include lectures, and simulation training, as well as postgraduate ones to raise awareness about CM. Annual trainings as well as simulations should be held at all of the Egyptian Governorates to train practicing dentists.

A reporting guideline should be established to help dentists in governmental and private sectors to report CM. Protection of dentists' information should be guaranteed so that the families of abused children wouldn't be able to hurt the reporter.

Providing the dentists with social support with respect to referring the suspicious cases of child abuse will increase the reporting and thus providing protection to more victims of maltreatment. And providing them with legal support so that they feel safe while reporting.

Conflict of interest:
The authors have no conflict of interest to declare.

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Ethical approval:
This study protocol was approved by the ethical committee of the Faculty of Dentistry, Cairo University on March 2020. The approval number is 7/3/20.

Data availability:
Data will be available upon request.

CRediT statement:

Author 1: Conceptualization, Data curation, Formal analysis, Questionnaire design, Data collection, Writing – original draft preparation.

Author 2: Conceptualization, Data curation, Methodology review, Project administration, Validation, Writing – review and editing.

Author 3: Conceptualization, Data curation. Methodology, Supervision, statistical analysis review, Writing – review and editing.

Trial registeration:
The protocol was registered on the clinical trial website**,** http://www.clinicaltrial.com.gov, with protocol ID: 14422017451433, clinical trail.gov ID: NCT04117971, and was verified on October 2019.

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