

Original Article

Knowledge, Attitudes, and Educational Experiences of a Group of Egyptian Dental Students Regarding Physical Child Abuse: A Cross-Sectional Study

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Abstract

Aim: This study aimed to assess knowledge, attitudes, and educational experiences of a group of Egyptian dental students regarding PCA. **Participants and methods:** A cross-sectional study with convenient consecutive sampling was conducted on a group of Egyptian dental students in three different dental classes (third, fourth, and fifth) in the Faculty of Dentistry, Cairo University, during the academic year 2019-2020. The data were collected through an anonymous, self-administrated structured questionnaire. The collected data were subjected to statistical analysis. **Results:** The response rate was 75.2 % (n=489/650) including 47.65% males and 52.35% females. Half of the respondents believed that strong correlation existed between dental neglect and presence of PCA. About 79.92% of the respondents believed that dentists were legally required to report child abuse. Most students indicated that their dental school was the main source of information about this topic. Only 20.55% of the respondents had received enough formal training in recognition and reporting PCA. **Conclusion:** Egyptian dental students have insufficient knowledge about PCA, and dental curriculum should be modified.

Keywords: Abuse, Child, Dental Students, Egypt, PCA.

I. INTRODUCTION

Child abuse and neglect (CAN) is a common social problem among different cultures and socio-economic groups that affects hundreds of thousands of children annually. Physical child abuse (PCA) is a part of the spectrum of CAN that results from the intentional use of physical force

against the child and leads to harmful effects for his health, survival, and development.^{1,2}

The extent of physical abuse ranges from mild or moderate physical maltreatment (e.g. skin injury and fractures of bones) to fatal abuse that lead to death. The World Health Organization

(WHO) estimated that about 57, 000 children under the age of 15 died worldwide as a result of physical abuse in 2000. ^{3,4}

In Egypt, children face different types of child abuse (CA). According to a UNICEF report 2005, The Situation of Women and Children in Egypt, nearly 81% of children in deprived urban communities have been corporally punished at home, and 91% have been corporally punished during the same period in schools. ⁵

The dental team is well placed to identify and detect CA cases because approximately 50-80% of all documented cases of CA involve the head and neck region, dentists are skilled at examining the head and neck and recording their findings. Untreated dental disease may be itself a sign of abuse and children often attend the dentist regularly, while they have little or no contact with other health services. ^{6,7}

Dental students should be well educated to play their role in the prevention of CA. Dental curricula should be modified to provide more formal education with an emphasis on the topic of CA to enhance the ability of future dentists to detect and report suspected cases of CA. ⁸

Bodrumlu et al. ⁹ performed a study to assess dental students' knowledge and attitudes towards CA at the Faculty of Dentistry of the Ondokuz Mayıs University using a self-report questionnaire. This study discovered a lack of knowledge regarding CA amongst Turkish dental students, the knowledge level of dental students varied and needed to be improved.

In Egypt, there is limited available data about the knowledge, attitudes, and educational experiences of dental students towards PCA. Therefore, the aim of this research was to assess the knowledge, attitudes, and educational experiences of a group of Egyptian dental students regarding PCA.

II. PARTICIPANTS AND METHODS

A. Study design and participants

This cross-sectional study was conducted in the Faculty of Dentistry, Cairo University during the academic year 2019 -2020. The research protocol was approved by the department research board. Ethical approval was obtained by the ethical committee with Ethical Approval ID 18510. The target participants were Egyptian dental students in three different dental classes (third, fourth, and fifth year of study) from the Faculty of Dentistry, Cairo University.

Only Egyptian dental students enrolled in this study and both genders were included. Dental students who refused to participate in the study were excluded.

B. Sample size Calculation

The sample size was determined by the Center of Evidence-Based at the Faculty of Dentistry, Cairo University. Convenient consecutive sampling was applied to select a group of Egyptian dental students (third, fourth, and fifth) classes from the Faculty of Dentistry, Cairo University.

C. The questionnaire

The questionnaire included 21 close-ended questions divided into five sections. The first section (Q1-Q2): The responders filled in their demographic information (gender and academic year at dental school). The second section (Q3-Q7): This section addressed knowledge about social indicators of PCA. The third section (Q8-Q14): This section assessed the students' knowledge about signs of PCA. The fourth section (Q15-Q18) This section deals with knowledge and attitudes regarding legal and ethical responsibilities towards PCA. The fifth section (Q19-Q21) assessed the educational experiences on the topic of PCA.

The students were accessed from their practical sessions after knowing their schedule. Verbal consent was taken from the students to confirm their ethical concern about accepting or refusing participation in the study, and the questionnaires were distributed to Egyptian dental students (third, fourth and fifth) classes in the Faculty of Dentistry, Cairo University. The aim of the study was clarified by the researcher. Each dental student was allowed to answer the questionnaire once. Participants were given only 30 minutes to answer the questionnaires under the supervision of the researcher. During answering the questionnaire, participants were not allowed to ask their colleagues.

Participants were allowed to ask the researcher any question, either to clarify any part of a question or anything about the survey. The researcher dealt with the participant personally. The researcher collected 489 questionnaires after the participants had finished answering. The response rate was 75.2%.

D. Bias

Selection bias was avoided as the study included all Egyptian students in three dental classes (third, fourth, and fifth) in the Faculty of Dentistry, Cairo University. One well trained researcher provided the same explanations with a standardized procedure to the participants to avoid performance bias. Information bias was avoided by using a high quality self-administrated questionnaire with close-ended questions. All collected data had been recorded and reported to avoid detection and reporting bias.

E. Statistical analysis

The data was analyzed using the R statistical package, version 3.3.1. Categorical data were described as frequencies and percentages. Comparative analysis were performed by the

exact binomial test and the chi-square test. The significance level was set at $P \leq 0.05$.

III. RESULTS

First section: The study included 489 dental students from the Faculty of Dentistry, Cairo University. Regarding demographic data, 188 (38.45%) were 3rd year, 146 (29.86%) were 4th year, and 155 (31.7%) were 5th year students. Out of 489 dental students 233 (47.65%) were males, while 256 (52.35%) were females as shown in table (2).

Second section: The difference between proportions was statistically significant in all questions dealing with knowledge about social indicators of PCA, as shown in table (3).

Third Section: There was a significant difference in all questions regarding knowledge about signs of PCA except for Q10 (bruises noted around the neck are usually associated with accidental trauma) and Q13 (strong correlation exists between dental neglect and the presence of PCA), as shown in table (4).

Fourth section: The majority of the participants 386 (79.92%) believed that dentists are legally required to report CA, and 429 (89%) believed that dentists have an ethical duty to report CA. Nearly half of the participants (52.8%) thought that dentists should report CA to the Family Protection Department, as shown in table (5).

Fifth Section: The main source of information about PCA was dental school, only 98 (20.55%) of the respondents had received enough formal training in recognition and reporting PCA; while 473 (98.75%) of the students requested to improve their knowledge about PCA by providing information about signs and symptoms, reporting procedures, and legal aspects, as shown in table (6).

Table (1): Questionnaire

N0	Questions	Answers
Q1	Gender	-Male -Female
Q2	Year at dental school	-Third year -Fourth year -Fifth year
Q3	Is child abuse one of the most relevant causes of pediatric mortality?	-YES -NO
Q4	Child abuse are primarily associated with the stresses of poverty	-True -False
Q5	Children who have been abused usually tell someone soon after the abuse	-True -False
Q6	Child abuse may be indicated if a parent delays seeking medical attention for a child's injury	-True -False
Q7	Is a vague history that differs every time the parent tell a possible indicator of abuse?	-True -False
Q8	Bruises on the cheek may indicate slapping or grabbing of the face	-True -False
Q9	Repeated injury to the dentition resulting in avulsed teeth or discolored teeth may indicate repeated trauma	-True -False
Q10	Bruises noted around the neck are usually associated with accidental trauma	-True -False
Q11	Burns are noted in many child abuse cases and they may have the shape of a heated object	-True -False
Q12	Bite marks noted on a child's neck or less accessible areas should be investigated, as it may be a sign of physical abuse	-True -False
Q13	Strong correlation exist between dental neglect and presence of physical child abuse.	-True -False
Q14	-Accidental injuries occur in area of bony prominences (e.g forehead, cheek bone)are common signs of physical abuse.	-True -False
Q15	Dentists are legally required to report child abuse	-Yes -No
Q16	Where to report child abuse cases?	-Family protection Department -Local police -The nearest Hospital -Don't know
Q17	Dentists have an ethical duty to report child abuse.	-Yes -No
Q18	Dentists should be legally responsible to report child abuse.	-Yes -No
Q19	What is your main source of information about physical child abuse?	-Dental school -Dental journals and literature -Continuing education courses -National dental meetings and conferences
Q20	Have you ever received enough formal training in recognition and reporting physical child abuse?	-Yes -No

Q21	What are your requests to improve your knowledge about physical child abuse? (You may select more than one answer.)	-Information about signs and symptoms
		-Information about reporting procedures
		-Legal aspects
		-Nothing

Table (2): Demographic data of the study sample

	Count	male		Female		<i>p</i> -value
		n	%	n	%	
Gender	489	233	47.65	256	52.35	0.3198
Academic year at dental school	count	3 rd year		4 th year		<i>p</i> -value
		n	%	n	%	
		188	38.45	146	29.86	

Significant ($p \leq 0.05$) ns; non-significant ($p > 0.05$)

Table (3): Number and percentage (%) for answers to questions regarding knowledge about social indicators of physical child abuse: (Q3-Q7)

Questions	count	true		false		<i>p</i> -value
		n	%	n	%	
Q3 Is child abuse one of the most relevant causes of pediatric mortality?	489	407	83.23	82	16.77	<0.0001
Q4 Child abuse are primarily associated with the stresses of poverty	489	355	72.60	134	27.40	0.0001
Q5 Children who have been abused usually tell someone soon after the abuse	487	134	27.52	353	72.48	<0.0001
Q6 Child abuse may be indicated if a parent delays seeking medical attention for a child's injury	487	340	69.82	147	30.18	<0.0001
Q7 Is a vague history that differs every time the parent tell a possible indicator of abuse?	477	396	83.02	81	16.98	<0.0001

Significant ($p \leq 0.05$) ns; non-significant ($p > 0.05$).

Table (4): Number and percentage (%) for answers to questions regarding knowledge about signs of physical child abuse (Q8-Q14)

Questions	Count	True		False		<i>p</i> -value
		n	%	n	%	
Q8 Bruises on the cheek may indicate slapping or grabbing of the face	486	428	88.07	58	11.93	<0.0001

Q9 Repeated injury to the dentition resulting in avulsed teeth or discolored teeth may indicate repeated trauma	487	397	81.52	90	18.48	<0.0001
Q10 Bruises noted around the neck are usually associated with accidental trauma	485	254	52.37	231	47.63	0.3178
Q11 Burns are noted in many child abuse cases and they may have the shape of a heated object	486	399	82.10	87	17.90	<0.0001
Q12 Bite marks noted on a child's neck or less accessible areas should be investigated, as it may be a sign of physical abuse	483	395	81.78	88	18.22	<0.0001
Q13 Strong correlation exist between dental neglect and presence of physical child abuse	479	234	48.85	245	51.15	0.6478
Q14 Accidental injuries occur in area of bony prominences (e.g forehead, cheek bone)are common signs of physical abuse	483	307	63.56	176	36.44	<0.0001

Significant ($p \leq 0.05$) ns; non-significant ($p > 0.05$)

Table (5): Number and percentage (%) for answers to questions regarding legal and ethical responsibilities (Q15-Q18)

	Count	Yes		No		p-value
		n	%	n	%	
Q15 Dentists are legally required to report child abuse	483	386	79.92	97	20.08	<0.0001
Q16 Where to report child abuse cases?	483					
A. Family protection department		255			52.80	
B. Local police		80			16.56	
C. The nearest hospital		37			7.66	<0.0001
A&B		1			0.21	
A&C		3			0.62	
D. Don't know		107			22.15	
	Count	Yes		No		p-value
		n	%	n	%	
Q17 Dentists have an ethical duty to report child abuse	482	409	84.85	73	15.15	<0.0001

Q18 Dentists should be legally responsible to report child abuse	482	429	89.00	53	11.00	<0.0001
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Significant ($p \leq 0.05$) ns; non-significant ($p > 0.05$)

Table (6): Number and percentage (%) for answers to questions regarding educational experiences on the topic of physical child abuse (19-21)

Q19 What is your main source of information about physical child abuse? (more than one answer was allowed)	Count	n	%	p-value		
	465					
A) Dental school		179	38.49			
B) Dental journals and literature		95	20.43			
C) Continuing education courses		126	27.10			
D) National dental meetings and conferences		55	11.83	<0.0001		
A&B		4	0.86			
A&C		1	0.22			
B&C		3	0.65			
B&D		1	0.22			
A,C&D		1	0.22			
Q20 Have you ever received enough formal training in recognition and reporting physical child abuse?	Count	Yes		No		p-value
	477	n	%	n	%	<0.0001
		98	20.55	379	79.45	
Q21 What are your requests to improve your knowledge about physical child abuse? (more than one answer was allowed)	Count	n	%	p-value		
	479					
A) Information about signs and symptoms		89	18.58			
B) Information about reporting procedures		73	15.24			
C) Legal aspects		44	9.19			
D) Nothing		29	6.05	<0.0001		
E) A&B		87	18.16			
F) A&C		26	5.43			
G) B&C		33	6.89			
H) A,B &C		98	20.46			

Significant ($p \leq 0.05$) ns; non-significant ($p > 0.05$)

IV. DISCUSSION

Child abuse is a grave violation of a child's fundamental rights that has severe and long-lasting consequences on children and can lead to child death. Child abuse is the third

leading cause of death in children between one and four years of age.^{11,12}

Identifying CA is the first and most essential step for child protection. Dentists' role in identifying PCA is critical because 50%–75% of all reported cases of PCA involved trauma to

the head, face, and mouth. This is an area that dentists routinely assess. Therefore, dentists' knowledge, awareness, and attitudes regarding CAN are extremely important for correct diagnosis and accurate and timely reporting of these cases, So dental students should be well prepared to play their future role in child protection, and their knowledge, attitudes, and educational experiences should be continuously improved.^{13,14}

Only Egyptian dental students were included in this study to minimize variables that could affect the results of the present study, and CA has various connotations across different cultures.¹²

The data were collected through self-administered questionnaires, which were the best applicable method to assess knowledge, attitudes, and educational experiences regarding PCA.¹⁵

A total of 489 dental students completed the questionnaire, with a response rate 75.2%. About 233 were males, while 256 were females. The difference in number between the two groups was statically insignificant. This result may be because gender was not an influencing factor, which might be attributed to a change in the students' knowledge, attitudes, and educational experiences regarding CA.⁶

In Q3 (child abuse is one of the most relevant causes of pediatric mortality), 83.23% of the students responded (true) to this question. This result may be because students thought that signs of CA could be hard to detect, so many children failed to be referred to child protective services and consequently continued to suffer from abuse, which may lead to child death.¹⁶ On the other hand, Bodrumlu et al.⁹ reported that only 22.14% of the Turkish dental students approved this association.

In Q7 (vague history that differs every time the parent tells is a possible indicator of abuse), 83.02% of the participants responded (true) to this question. This result may be because students thought that parents' vague history was

due to their fear of being revealed. This result was comparable to Bodrumlu et al.⁹ who reported that 90.4% of the Turkish dental students showed the same response.

In Q10 (bruises noted around the neck are usually associated with accidental trauma), 52.37% of the participants responded (true) to this question, this result was comparable to Hashim & Al-Ani,¹⁷ who reported that 46.4 % of the participants believed that bruises noted around the neck are usually associated with accidental trauma. On the other hand Hussein et al.¹⁸ reported that 65.7 % of Malaysian dental health care providers approved the association between bruises noted around the neck and non-accidental trauma.

In Q13 (strong correlation exists between dental neglect and presence of PCA), 48.85% of the students responded (true), This result may be because there are some common oral signs between dental neglect and PCA as the presence of multiple residual roots and discolored teeth from pulp necrosis.^{12,19} Moreover, Beltag²⁰ reported that 69.2 % of the participants thought that a strong correlation existed between dental neglect and PCA.

In Q16 (Where to report child abuse cases), 52.8% of the students thought that dentists should report CA to the family protection department, while Hashim & Al-Ani¹⁷ reported that only 36.2% of the participants selected the family protection department.

The family protection department operates as a specialized department dealing with domestic violence. In Egypt, NCCM plays an important role in child protection and prevention of CA through the child helpline 16000, which is a mechanism for receiving and recording child complaints. The NCCM protects from violence, abuse, and neglect all over the country within the framework of a real partnership with the concerned ministries and social community working in this field.²¹

In Q18 (Dentists have an ethical duty to report child abuse), 89% of the students responded (yes) to this question. This result was in accordance with Hashim & Al-Ani¹⁷ who reported that 94.3 % of the participants believed that dentists have an ethical duty to report CA.

The majority of the dental students were aware of their ethical responsibility towards protecting children from CA and agreed that dentists should be legally responsible to report CA. These results indicated that future dentists in Egypt are willing to undertake the role of protecting children against abuse.

In Q21 (What are your requests to improve your knowledge about PCA?), the majority of dental students requested to improve their knowledge about PCA by providing information about signs and symptoms, reporting procedures, or legal aspects. This result may be due to most of the students had never received enough formal training in the recognition and reporting PCA.

V. CONCLUSION

Physical child abuse is a widespread social phenomenon with serious lifelong consequences on children and communities. Egyptian dental students had insufficient knowledge about social indicators of PCA, while the majority of them were aware of their ethical responsibility towards protecting children from PCA and approved that the dentists should be legally responsible to report CA cases.

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Conflict of Interest:

The authors declare no conflict of interest.

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Ethics:

This study protocol was approved by the ethical committee of the faculty of dentistry- Cairo university on: 22/4/2018, approval number: 18510.

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