



Dental Students' Educational Experiences and Knowledge in Regard to Child Abuse and Neglect: The Experience in a Nigerian University in South Western Nigeria

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Abstract

Background: Child abuse is now established as an international issue. In recent times, many researchers have suggested the need to check the level of readiness of graduating dental students regarding how they can successfully handle child abuse cases.

Objective: To determine the knowledge of child abuse among undergraduate dental students in a Nigerian university.

Methods: A cross sectional study was conducted among undergraduate students in five classes of the Faculty of Dentistry, University of Ibadan, Nigeria. Demographic information was collected through a self-administered structured questionnaire distributed among the dental students. Other information obtained included their educational experiences and level of knowledge on child abuse and neglect. The data was analyzed using SPSS version 13 and the level of significance was set at $p < 0.05$.

Results: One hundred and sixty one subjects consisting of 80 males and 81 females with a mean age of 22 (+2.4) years participated in the study. The majority (61.5%) had encountered the topic of child abuse and neglect during studies at the university. The subjects scored less than 50.0% regarding some aspects of knowledge of signs of physical abuse while they scored over 60.0 % on signs of emotional and sexual abuse and neglect. In their knowledge of signs of diagnostic indicators of abuse, a quarter of the subjects knew that child abuse and neglect was not basically associated with stress and poverty. Only 8.7 % knew correctly that dentists in Nigeria are not legally required to report child abuse. There were some statistically significant associations between respondents' knowledge of physical, emotional/sexual abuse and neglect and diagnostic indicators of abuse and their levels of study with respondents in the senior classes having higher scores.

Conclusion: Knowledge gaps particularly with recognition of signs of child abuse exist among dental students. We recommend that a mandatory course that deals with child abuse and neglect issues should be included in the dental curriculum especially at the pre-clinical stage.

Keywords: Dental students, Educational Experiences, Knowledge, Child Abuse

Introduction

Child abuse has been documented to be a serious global problem¹. Child abuse and child maltreatment is defined as "all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or 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"². It has been proved to transcend socioeconomic, religious, cultural, racial, and ethnic barriers³.



In the United Kingdom 5.9% of children below 11 years of age and 18.6% of 11 to 17 year-olds have suffered as victims of abuse⁴. In 2015, approximately 1,670 children died from abuse and neglect in the United States⁵. In Nigeria, six out of every 10 children experience some form of violence. Also, one in four girls and one in 10 boys have been victims of sexual violence⁶ in Nigeria. A study among secondary school children revealed that 51.2 % of females and 48.8 % of males had been traumatized by physical abuse⁷. In Nigeria, abuse against children is rampant and highly under-reported. This may be due to the cultural defense that certain types of abuse are linked with cultural practices, unwillingness of the children to talk about prior experiences, fear of the assailants' threats or being too young to understand or speak out about their experience⁸.

Child abuse and neglect have huge instant and long-term consequences such as physical injury, disability and deaths. Other effects include delayed intellectual development, poor school performance, mental health problems, loss of self esteem, suicidal tendencies, increased health-risk behaviours, revictimization and the perpetration violence⁹. Dentists are in a key position to diagnose an abused child. This is because trauma to the head, face, and neck are seen in 50% to 75% of abuse cases¹⁰. The signs can be observed during clinical examination of children. Furthermore, dental practitioners can detect the typical characteristics of the family as they have a constant and continual relationship with their child patients and their families¹¹.

Studies have revealed gaps in the knowledge of dentists regarding detection of child abuse^{12,13,14}, which was attributed to inadequate training. Reports revealed that dentists and dental health care providers failed to report cases due to lack of knowledge. Other reasons included not knowing where to report and not knowing what to do when confronted with cases^{12,15}.

In recent times many researchers have considered the importance of the level of readiness of graduating dentists, on how they can successfully detect and manage child abuse cases¹⁶. It appears no prior study has been conducted on this subject in a Nigerian University. Therefore, the objective of this study was to determine the knowledge of child abuse among undergraduate dental students in a Nigerian University. Insight into the current state of preparedness of students prior to graduation may disclose the need for curriculum review if the present one is found to be defective in the subject.

Materials and Methods

A cross sectional study was conducted among the dental students at the University of Ibadan, Ibadan, Nigeria. The Faculty (formerly School) of Dentistry, University of Ibadan, the second of the 10 dental schools in Nigeria, was established in 1975. All registered preclinical and clinical dental students of this school were eligible to be included in the study. The registered preclinical and clinical dental students who were willing to participate were included in the study, while those who were unwilling to participate were excluded from the study.

The questionnaire consisted of twenty-one statements modified from earlier similar studies^{17,18}. It was constructed with a true-false format and consisted of three sections. Section 1 was used to elicit demographic information and characteristics of participants including age, gender, and level of study. Section 2 assessed participants' awareness of the topic in dental school "child abuse and neglect", while nine statements elicited signs of physical abuse. Others assessed emotional and sexual abuse (7 statements) and participants' knowledge of diagnostic indicators of abuse (6 statements). Section 3 assessed their knowledge of legal responsibilities regarding reporting child abuse and neglect, which included whether a law exists in Nigeria mandating dentists to report suspected abuse cases and where to report such cases. It also enquired if they thought dentists should have a legal or ethical duty to report suspected cases. Face validity was done and assessed by two resident doctors in Paediatric dentistry. The questionnaire was pretested among 10 newly qualified dentists and modifications were effected in the final questionnaire.

Prior to distribution of the questionnaire, the students were informed that their participation was voluntary with no penalty for refusal. The questionnaire had a cover letter stating the aim of the study, consent to participate and the students were assured of confidentiality. Questionnaires were administered to students who were willing at the end of their classes. The questionnaire took approximately ten minutes to fill.

Data were coded and entered into an SPSS (Statistical Package for the Social Sciences, version 13) and analyzed by using descriptive analyses for responses to each question. The chi-square test was used to analyze the relationship between knowledge and level of education; the difference was considered significant if the probability of the difference was less than 5% (p value < 0.05).

Results

One hundred and sixty one dental students comprising; 80 males and 81 females - participated

in the study with a mean age of 22years (SD=2.4) (Fig. 1).

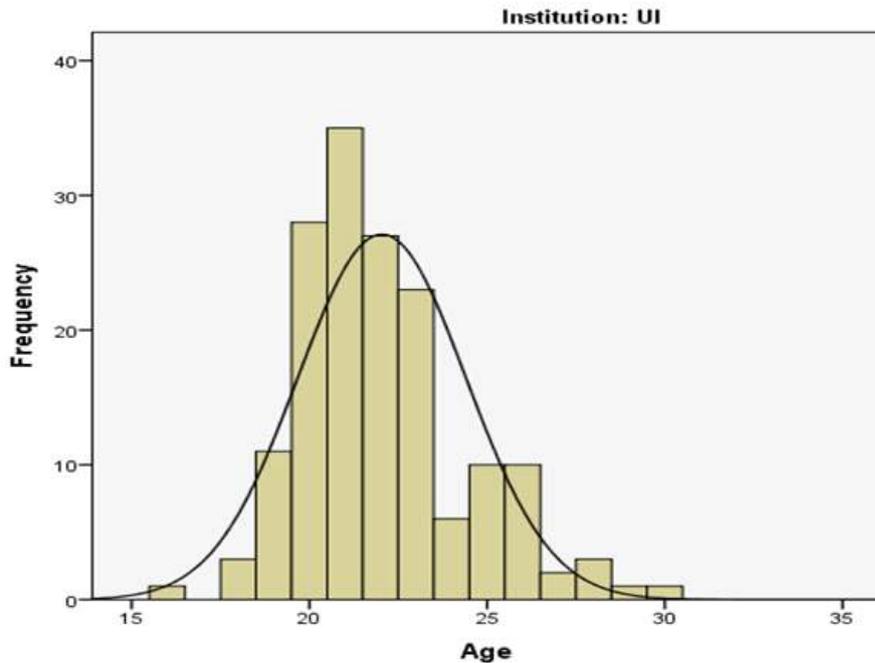


Fig.1: Age distribution of respondents

Eighty one (50.3%) of the respondents were females (Table 1). Ninety-nine (61.5%) had encountered the topic of child abuse and neglect during studies at the University and the proportion of students who had

come across the topic of child abuse and neglect was highest amongst the final year students (26; 96.3%) (Table 2).

Table 1: Respondents' distribution by gender and year of study

Gender	Year of study					Total
	200	300	400	500	600	
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Male	35(68.6)	10(33.3)	10(43.5)	11(36.7)	14(51.9)	80(49.7)
Female	16(31.4)	20(66.7)	13(56.5)	19(63.3)	13(48.1)	81(50.3)
Total	51(31.7)	30(18.6)	23(14.3)	30(18.6)	27(16.8)	161(100.0)

n=number of respondents

Table 2: Respondents educational experience on the topic of child abuse and neglect in relation to year of study, by percentage of respondents

Question	Answer	200	300	400	500	600	Total
		n (%)					
Have you come across the topic of child abuse and neglect during your studies in your university?	Yes	25(49.0)	13(43.3)	18(78.3)	17(56.7)	26(96.3)	99(61.5)
	No	26(51.0)	17(56.7)	5(21.7)	13(43.3)	1(3.7)	62(38.5)

n=number of respondents



Students' responses regarding their knowledge on signs of physical abuse are as shown in Table 3. Less than half of the respondents gave correct answers in two out of nine statements eliciting the knowledge of these signs. Five statements regarding signs of

physical abuse had statistically significant associations among the various levels of study with majority of students in the senior class having higher scores which reflect better knowledge of these signs.

Table 3: Respondents knowledge of signs of physical abuse in relation to year of study by percentage of correct responses to statement

Statement	Correct Response	Year of Study					Total (n=161)	P-value
		200 (n=51)	300 (n=30)	400 (n=23)	500 (n=30)	600 (n=30)		
Bruises on the cheek may indicate slapping or grabbing of the face	True	44 (86.3)	28 (93.3)	23 (100.0)	29 (96.7)	25 (92.6)	149 (92.5)	0.237
Repeated injury to the dentition resulting in avulsed teeth or discolored teeth may indicate repeated trauma from abuse	True	43 (84.3)	19 (63.3)	18 (78.3)	27 (90.0)	26 (96.3)	133 (82.6)	0.012*
Bruises noted around the neck are usually associated with accidental trauma	False	14 (25.7)	10 (33.3)	6 (26.1)	14 (46.7)	18 (66.7)	62 (38.5)	0.006*
Burns are noted in many child abuse cases, and they may have the shape of a heated object	True	44 (86.3)	26 (86.7)	20 (87.0)	27 (90.0)	26 (96.3)	143 (88.8)	0.715
Bite marks noted on child's neck less accessible are as should be investigated, as bite marks are frequently a component of child abuse	True	41 (80.4)	18 (60.0)	16 (69.6)	18 (60.0)	22 (81.5)	115 (71.4)	0.125
A strong correlation exists between dental neglect and presence of physical neglect	True	34 (66.7)	16 (53.3)	16 (69.6)	19 (63.3)	25 (92.6)	110 (68.3)	0.028*
Accidental injuries usually occur in areas overlying bony prominences (e.g the forehead or cheek bone)	True	41 (80.4)	16 (53.3)	20 (87.0)	21 (70.0)	22 (81.5)	120 (74.5)	0.028*
Orofacial trauma is found 50-75% of children with diagnosed physical abuse	True	28 (54.9)	12 (40.0)	12 (52.2)	14 (46.7)	19 (70.4)	85 (52.8)	0.210
Injuries to the ears, side of the face and neck and tips of shoulders are more often caused by accidents during child play and everyday life	False	10 (19.6)	4 (13.3)	3 (13.0)	3 (10.0)	13 (48.1)	33 (20.5)	0.002*

Students' responses on knowledge of signs of emotional and sexual abuse and neglect revealed that more than 60% had correct responses with scores ranging from 61.5% - 93.8% in all the seven statements eliciting this knowledge. In statements such as; "Psychosomatic complaints by the child may

indicate a problem relating to sexual abuse of a child" (p=0.003), "Failure of the parents or guardians to follow through with dental treatment neglect once they have been informed about a child's rampant caries may be considered" (p=0.010) and "petechial hemorrhaging, erythema vesicles and lesions on the



child's oral mucous membrane can point to oral sex and sexual abuse" (p=0.000), there was statistical significant differences with respondents in the final year having higher knowledge scores (Table 4).

Table 4: Respondents knowledge of signs of emotional and sexual abuse and neglect in relation to year of study by percentage of correct responses to statement.

Statement	Correct Response	Year of Study					Total (n=161)	P-value
		200 (n=51)	300 (n=30)	400 (n=23)	500 (n=30)	600 (n=30)		
Emotional abuse consists of continual insulting of a child, name calling, shaming, mocking in the presence of others	True	48 (94.1)	28 (93.3)	22 (95.7)	28 (93.3)	25 (92.6)	151 (93.8)	0.994
The abuser is most commonly a stranger to the child	False	29 (56.9)	21 (70.0)	14 (60.9)	22 (73.3)	22 (81.5)	108 (67.1)	0.199
Psychosomatic complaints by the child may indicate a problem relating to sexual abuse of a child	True	36 (70.6)	16 (53.3)	21 (91.3)	16 (53.3)	23 (85.2)	112 (69.6)	0.003*
Seductive behaviours by a child toward the dental staff may be indicative of prior sexual abuse of a child	True	41 (80.4)	17 (56.7)	18 (78.3)	22 (73.3)	24 (88.9)	122 (75.8)	0.055
A child's failure to make eye contact and respond to the dental staff may be a sign of sexual abuse	True	28 (54.9)	18 (60.0)	17 (73.9)	17 (56.7)	19 (70.4)	99 (61.5)	0.455
Failure of the parents or guardians to follow through with dental treatment neglect once they have been informed about a child's rampant caries may be considered	Child neglect	26 (51.0)	19 (63.3)	18 (78.3)	18 (60.0)	24 (88.9)	105 (65.2)	0.010*
Petechial hemorrhaging, erythema vesicles and lesions on the child's oral mucous membrane can point to oral sex and sexual abuse	True	35 (68.6)	12 (40.0)	15 (65.2)	19 (63.3)	24 (88.9)	105 (65.2)	0.00*

As shown in Table 5, student's responses regarding knowledge of signs of diagnostic indicators revealed that 41(25.5%) gave correct answers regarding the statement "Child abuse and neglect are primarily associated with the stress of poverty and rarely occur

among middle or high-income earners" while 92(57.1%) gave correct responses to the statement "child abuse may be indicated if a parent reports a child's injury as a sibling-inflicted injury"

Table 5: Respondents knowledge of signs of diagnostic indicators of abuse in relation to year of study by percentage of correct responses to statement

Statement	Correct Response	Year of Study					Total (n=161)	P-value
		200 (n=51)	300 (n=30)	400 (n=23)	500 (n=30)	600 (n=30)		
Child abuse and neglect are primarily associated with the stress of poverty and are rarely occur among middle- or high -income earners	False	9 (17.6)	12 (40.0)	9 (39.1)	6 (20.0)	5 (18.5)	41 (25.5)	0.078
Children who have been abused usually tell someone soon after the abuse	False	30 (58.8)	19 (63.3)	13 (56.5)	19 (63.3)	25 (92.6)	106 (65.8)	0.029*

Statement	Correct Response	Year of Study					Total (n=161)	P-value
		200 (n=51)	300 (n=30)	400 (n=23)	500 (n=30)	600 (n=30)		
If a child readily states that an adult has caused harm, the accusation should be addressed	True	48 (94.1)	27 (90.0)	20 (87.0)	27 (90.0)	27 (100.0)	149 (92.5)	0.411
Child abuse may be indicated if a parent describes a child's injury as a self-inflicted injury	True	32 (62.7)	14 (46.7)	13 (56.5)	16 (53.3)	25 (92.6)	100 (62.1)	0.005*
Child abuse may be indicated if a parent reports a child's injury as a sibling--inflicted injury	True	31 (60.8)	14 (46.7)	16 (69.6)	12 (40.0)	19 (70.4)	92 (57.1)	0.072
Child abuse may be indicated if a parent delays seeking a medical attention for a child's injury	True	40 (78.4)	16 (53.3)	16 (69.6)	23 (76.7)	26 (96.3)	121 (75.2)	0.005*

Three statements out of nine; "Children who have been abused usually tell someone soon after the abuse" (p=0.029), "Child abuse may be indicated if a parent delays seeking a medical attention for a child's injury" and "Child abuse may be indicated if a parent describes a child's injury as self-inflicted injury" (p=0.005), showed a statistical significant association across the years of study as students in the final year of study scored higher marks than those in the lower years.

Concerning where to report cases of child abuse, 111(66.1%), 38(22.6%) and 8(4.8%) would report suspected cases of child abuse to the social welfare office, local police station and nearest hospital, respectively. Eleven (6.5%) had no idea of where they could report such cases. There were multiple responses from the respondents.

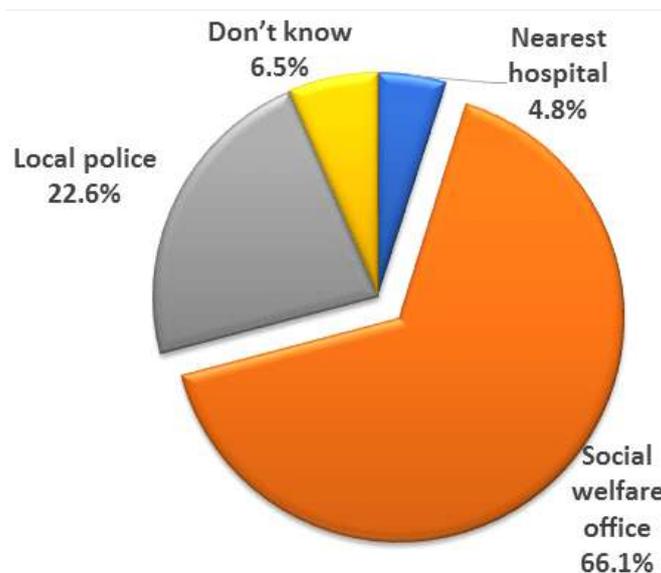


Figure 2: Respondents knowledge regarding places to report child abuse

Regarding knowledge of legal and ethical responsibilities 14 (9.0%) knew that dentists in Nigeria are not legally required to report child abuse. The majority (77.8%) believed that dentists should be

legally responsible to report child abuse and (85.0%) stated that dentists have an ethical duty to report child abuse (Table 6).

Table 6: Respondents knowledge of legal and ethical responsibilities regarding reporting abuse in relation to year of study by percentage of correct responses to statement

Statement	Correct Response	Year of Study					Total	P-value
		200	300	400	500	600		
Dentists are legally required to report child abuse in Nigeria	No	6 (11.8)	3 (10.0)	0 (0.0)	0 (0.0)	5 (18.5)	14 (8.7)	0.061
Dentists should be legally responsible to report child abuse	True	35 (68.6)	22 (78.6)	19 (86.4)	24 (80.0)	21 (77.8)	121 (77.8)	0.302
	False	11 (21.6)	3 (10.7)	2 (9.1)	1 (3.3)	5 (18.5)	22 (18.5)	
	Don't Know	5 (9.8)	3 (10.7)	1 (4.5)	5 (16.7)	1 (3.7)	15 (3.7)	
Dentists have an ethical duty to report child abuse	True	40 (78.4)	23 (85.2)	23 (100.0)	24 (80.0)	25 (92.6)	135 (85.4)	0.057
	False	5 (9.8)	2 (7.4)	0 (0.0)	0 (0.0)	2 (7.4)	9 (5.7)	
	Don't know	6 (11.8)	2 (7.4)	0 (0.0)	6 (20.0)	0 (0.0)	14 (8.9)	

Discussion

Child abuse continues to be a critical worldwide problem. When abuse persists, the death of a child is one of the terrible consequences, so all efforts must be made to ensure early detection. It has been documented that 61% of deaths due to child abuse are preventable¹⁷. Identification and correctly responding to abuse is one of the main key things to reduce the imminent associated morbidity and mortality. Dentists are in a unique position to identify and report child abuse since majority of the signs of abuse are seen in the orofacial region and have an important role in child protection from abuse.

This is the first study conducted among Nigerian dental students regarding child abuse and neglect. This study revealed that 61.5% of the respondents claimed to have come across the topic of child abuse and neglect during the course of their studies. This is similar to findings among Jordanian and Croatian¹⁸ dental students. Half of them had come across the topic in the first two years as it is not taught as a compulsory during the preclinical years. Majority of them experienced this in their fourth and fifth years of study as a topic taught in that period.. The students have always received a two-hour lecture in their final year on the topic of child abuse and neglect. This appears to be an insufficient time period to adequately deal with such an important topic and sufficiently prepare future dentists for the challenges recognizing and correctly dealing with child abuse and neglect. Studies among Nigerian dentists showed that they had knowledge gaps regarding recognizing and reporting child abuse^{12,13}. Currently,

the topic has been recently introduced in the new curriculum in the fourth year, and is slated for two hours.

Students in our study were found to be lacking in knowledge regarding some signs of physical abuse. Majority had good knowledge in that, they recognized that bruises around the cheek may indicate slapping /grabbing of the face; repeated injury to dentition resulting in avulsion / discoloured teeth; burns having the shape of heated objects; accidental injuries over areas overlying bony prominences could be signs suggestive of physical abuse. In addition, they knew that a strong correlation exist between dental neglect and physical neglect regarding abuse cases. A greater proportion of the senior students, (the fifth and sixth year students) have this knowledge. Just over a third and half of the respondents respectively knew that bruises around the neck were not usually associated with accidental trauma, and that orofacial trauma is found in approximately 50-75% of physical abuse cases. One fifth of the respondents knew that injuries to the ears, side of the face and neck, and tips of shoulders were not often caused by accidents during child's play and everyday life. This is similar to reports concerning Saudi dental students¹⁴.

More than half of the students recognized that the child's failure to make eye contact with the dental staff, petechial haemorrhaging, erythema, vesicles in children's oral mucous membrane were possible indications of sexual abuse. Respondents' responses on knowledge of signs of emotional and sexual abuse



and neglect revealed that participants scored over 60.0% in all seven statements, this is higher than in the study of Jordan et al¹⁹.

Only about a quarter of the respondents knew correctly that child abuse and neglect was not basically associated with stress and poverty, but also occurred in middle and high income earners. Less than three fifths of the study participants were aware that parents could falsely describe child injury as a self or sibling inflicted injury. Recognizing signs and symptoms of abuse is the first and vital step in helping abused children. If students lack knowledge of signs and symptoms of abuse, they may not be able to recognize and report suspected cases as practising dentists.

Though majority of respondents felt that dentists in Nigeria were legally required to report child abuse, dentists are not mandated to report child abuse. It is only considered a moral obligation. In Nigeria, six out of every 10 children experience some form of violence and one in four girls and one in ten boys have been victims of sexual violence⁶. This may serve as a wake up call to the government to make reporting of child abuse by the dentist mandatory, considering their key position in detecting this menace.

In this study, senior students were more knowledgeable in many aspects of the topic than their junior colleagues. This is in line with reports of Thomas et al¹⁶. This could be attributed to the fact that students are not taught the signs and symptoms of abuse until the fifth year. The difference in knowledge of students with regards to their year of study may be explained by the timing of this topic in their curriculum.

Our study identified a lack of knowledge regarding child abuse and neglect among Nigerian dental students at the University of Ibadan. Some knowledge gaps still exist concerning the subject of child abuse and neglect among these dental students. This corroborates with other studies in Croatia¹⁹, Turkey,²⁰ United Arab Emirates,¹ United States of America¹⁷ and Jordan¹⁷. The quality of dental education could be a crucial factor contributing to increase in identification/detection and reporting child abuse by dental care givers and students¹⁷.

For this reason, the dental curricula should be revisited to adequately prepare students to undertake their expected role in protecting children from abuse and neglect.

Conclusion

Level of knowledge of dental students regarding child abuse and neglect was variable and needs to be improved. This can be achieved by mandatory independent course that deals with child abuse and neglect issues and should be included in the dental curriculum before students begin their clinical studies. They should be exposed through workshops, small group teachings, problem based approach teaching, case discussions and interaction with other health care and social care staff.

Limitations

This study looked at educational experiences and knowledge among students from one university in Nigeria. Data from other universities could have given a holistic picture of Nigerian students dental experience and knowledge of child abuse.

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