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ABSTRACT

Background: Child abuse and neglect (CAN) includes all forms of physical and emotional ill-treatment, sexual abuse, neglect and exploitation that results in actual or potential harm to the child's health, development or dignity. Since approximately half the manifestations of CAN are evident in the cranial, orofacial and neck regions, dentists are often in a strategic position to recognize cases of such maltreatment. However, there is paucity of information regarding the perception and experiences of dentists regarding CAN in Kenya.

Objective: To describe the perceptions and experiences of dentists in Nairobi County, towards CAN.

Design: A descriptive cross-sectional study

Setting: Public and private dental clinics in Nairobi City County.

Subjects: Dentists in the public and private sectors in Nairobi County who consented to be recruited to participate in the study.

Results: Out of the 167 questionnaires distributed, 97 were returned duly filled by the participants. Majority of the participants (59.8%) were male. The most frequently observed indicators of CAN as reported by the participants were the child's poor general hygiene (90.7%), poor oral hygiene (90.7%), bruises on the head (79.4%), wounds in different stages of healing in head and neck region (74.2%) and poor general health (74.2%). A large percentage (62.9%) of the participants did not know the reporting mechanisms for suspected cases of CAN. The percentage of participants with knowledge on reporting mechanism of CAN significantly increased with increasing age ($X^2 = 25.03$; $p = 0.01$). However, the difference between the percentage of males and that of females who knew the mechanism of reporting CAN was not statistically significant. At least 86.6% of the participants had encountered suspicious cases of CAN but only 26.8% had reported such cases to the relevant authorities. Among the reasons given for not reporting the suspicious cases of CAN included lack of certainty of the diagnosis (76.3%), fear of family violence to the child (77.3%) and lack of knowledge on the referral procedures (74.2%). Actions taken on encountering such cases included documenting the signs in the patient's records and discussing the case with the child's care-giver. All the participants felt there was need for additional education on CAN for the dental practitioner.

Conclusion: Although majority of the dentists could recognize suspicious cases of CAN, certain barriers to reporting these cases to relevant authorities existed. It is, therefore, recommended that all practitioners in dentistry endeavor to acquire basic knowledge on CAN diagnosis, reporting procedures and child protection.

INTRODUCTION

A child is defined as any human being under the age of 18 years (1). Child abuse and neglect (CAN) includes all forms of physical and emotional ill-treatment, sexual abuse, neglect and exploitation that results in actual or potential harm to the child's health, development or dignity in the context of a relationship of responsibility, trust or power (2). Within this broad definition, five subtypes can be distinguished thus: physical and sexual abuse, neglect and negligent treatment, emotional abuse and exploitation (1). Orofacial and neck manifestations are some of the most common signs and symptoms of physical abuse and neglect occurring in cases of CAN (3). This places the general and specialised dentist at a strategic position to diagnose suspected cases of CAN.

Physical abuse of a child is defined as those acts by a person with responsibility, trust or power over the child that cause actual physical harm or have the potential to cause harm. Injury is inflicted on the child with hands, fingers, scalding substances, or with instruments such as eating utensils, sticks and belts resulting in contusions, burns or lacerations of the tongue, lips, buccal mucosa, palate gingivae, alveolar mucosa or frenum, displaced or avulsed teeth or facial bone fractures (4). On the other hand, sexual abuse is defined as those acts where a caregiver uses a child for sexual gratification. The oral cavity is a potential site for sexual abuse in children (5) and as a result, visible oral injuries and infections can occur. Oral and peri-oral infections such as gonorrhoea if diagnosed in pre-pubertal children is indicative of sexual abuse (6).

Neglect refers to the failure of a parent to provide for the development of the child when in a position to do so with reasonable resources being available. The areas of neglect include health, education, emotional development, nutrition, shelter and safe living conditions. Neglect is thus distinguished from circumstances of poverty in that neglect can occur only in cases where reasonable resources are available to the family or caregiver (7). Dental neglect is the willful failure of a parent or guardian to seek and follow through with treatment necessary to ensure a level of oral health essential for adequate function and freedom from pain and infection (8). While the detection of dental care neglect is an obvious responsibility for dentists, other types of CAN may also present themselves in the dental office and provide indicators of neglect. Emotional abuse is the failure of a caregiver to provide an appropriate and supportive environment and includes acts that have an adverse effect on the emotional health and development of a child. Such acts include restricting a child's movements, denigration, ridicule, threats, intimidation, discrimination, rejection and other non-

physical forms of hostile treatment.

Knowledge on how to diagnose suspected cases of child abuse is formally given to dentists during undergraduate training. Additional education is given to dentists specialising in paediatric dentistry. Correct information and a high index of suspicion are necessary for the diagnosis of CAN. Judgment is made from the history of the injury, including the mechanism of injury and its timing, which gives a guide as to whether it is consistent with the characteristics of the injury and the developmental capabilities of the child (9). Multiple injuries especially those at different stages of healing or a history that has contradictions or discrepancies should arouse suspicion of abuse.

Children suspected to have been abused or neglected are subjected to a guided examination based on the suspected type of abuse and presenting symptoms. Required diagnostic tests may be carried out. Once cases of CAN are confirmed, the reporting protocol includes informing a social worker for that region, reporting to the police and referral of the child to a counselor and or psychiatrist. The objective of the present study was to describe the perceptions and experiences of dentists in Nairobi County regarding CAN.

MATERIALS AND METHODS

This was a descriptive cross-sectional study conducted amongst practicing dentists in Nairobi City County and involved dentists in both the public and private sector. Nairobi was selected as the site of study because it has the highest number of dentists therefore chances of recruiting many participants within the short period of time for this study was high. A list of registered and practicing dentists and their registered premises/ telephone numbers were obtained from the Kenya Medical Practitioners and Dentists' Board and also from the Kenya Dental Association membership list. A list of dentists in public health facilities was obtained from the ministry of health. Purposive sampling method was used where all the dentists practicing in registered dental facilities/clinics were recruited to participate in the study.

Data were collected during the months of September and October 2015 using a self-administered questionnaire adopted from the studies by Cairns *et al* 2005 (10) and Sonbol 2012 (11). Due to the possibility of poor response rates and anticipated difficulty in tracing participants, questionnaires were physically hand delivered by the Principal Investigator (PI) to all registered dentists in their places of work. One hundred and sixty seven questionnaires were distributed. The participants were given one week to duly fill in the questionnaires after which the PI collected them. Self-administered questionnaires were preferred over interviews because of the busy

schedules of most dentists who would prefer take away questionnaires over time consuming interviews. Variables collected included socio-demographic characteristics of participants, type of practice, perception and experiences regarding CAN. Data were coded, entered, cleaned and analyzed using SPSS version (17). Chi-square test for trends was computed where it was necessary to test the significance of trends of changes in the variables. This study was approved by the Kenyatta National Hospital and University of Nairobi Ethics and Research Committee (Ref. no. KNH/ERC/UA/174).

RESULTS

Socio-demographic characteristics: Among the 167 questionnaires distributed, 97 (58.1% response rate) were completed and analyzed. Of the 97 participants studied, 58 (59.8%) were male while 39 (40.2%) were female giving a male to female ratio of 3:2. Majority of the participants (80.4%) were in the age bracket of 20-39 years, 13.4% in the age group 40-49 years while very few (6.2%) were over 50 years old. Regarding specialisation, majority (77.3%) were general practitioners followed by Paediatric dentists (9.3%), then 4.1% periodontists, 4.1% prosthodontists, 2.1% orthodontists and 4.1% maxillofacial surgeons.

On the sources of information on CAN, 84 (86.6%), had formal education during their Bachelor of Dental Surgery (BDS) degree training while seven (7.2%) had received additional information during their post graduate education. Other sources of information were scientific conferences and workshops (6.2%) and journal articles (3.1%).

Indicators of CAN according to participants: The observable indicators of CAN reported by the majority of the participants included poor oral hygiene (90.7%), poor general hygiene (90.7%) and bruises on the head (79.4%) (Table 1). Other forms of child abuse mentioned by participants but not included in the table were failure to seek medical treatment for the child, neglect of a child's education, beating causing injury, verbal humiliation, sexual abuse, non-injurious spanking and poor general hygiene.

Knowledge on mechanism of reporting suspected cases of

CAN: Table 2 shows the distribution of participants by age and gender and according to whether they knew the mechanisms of reporting cases of CAN. Most of the participants in the age groups 20-39 years did not know the mechanism of reporting suspected cases of CAN while the reverse was true for those in the age groups above 40 years. The percentage with knowledge tended to increase with the age of participants and this was statistically significant ($X^2 = 25.03$, $p = 0.01$). However, the percentage of males with knowledge of reporting mechanism for CAN was not significantly different from that of females (Table 2).

Professional experience with CAN: Majority of the participants 84 (86.6%) reported having seen a case of CAN. However, only 26 (31%) had ever reported such a case to relevant authorities (Table 3). Twenty one (58.3%) of those who knew the mechanism of reporting suspicious cases of CAN had reported such cases while 55 (91.7%) of those who did not know the mechanism of reporting had not reported a case (Table 3). The difference was statistically significant ($X^2 = 29.04$, $p = 0.00$).

A slightly lower percentage of female compared to male participants had reported cases of CAN. However, the gender differences were not statistically significant. Paediatric dentists had a statistically significant higher rate of reporting cases of child abuse as compared to general practitioners and other specialists ($x^2 = 22.1$, $p = 0.00$).

Actions taken on encountering cases of CAN: After encountering suspicious cases of CAN, majority of the participants (71.1%) documented the signs in the patients' records while 52.6% discussed the case with the child's care giver (Table 4). However, only 26.8% contacted the relevant authorities while 9.3% took no action at all.

Barriers to reporting cases of CAN: Among the barriers to reporting cases of CAN were fear of family violence to the child (77.3%), fear of litigation (84.5%) and lack of certainty of the diagnosis (76.3%) (Table 5). Lack of knowledge of the mechanisms of reporting suspected cases of CAN by majority of the participants was also a hindrance to reporting of the cases.

Table 1
Frequencies of the various observed indicators of CAN as reported by the participants

Observed indicators of CAN	Yes	No
Child's poor health	72(74.2%)	25(25.8%)
Poor general hygiene	88(90.7%)	9(9.3%)
Poor oral hygiene	88(90.7%)	9(9.3%)
Bruises on soft tissue of head and neck	66(68%)	31(32.0%)
Rampant caries	64(66%)	33(34.0%)
Delayed social and intellectual development	44(45.4%)	53(54.6%)
Intra oral injuries	62(63.9%)	35(36.1%)
Bruises on head	77(79.4%)	20(20.6%)
Head lice	58(59.8%)	39(40.2%)
Wounds in different stages of healing in head and neck	72(74.2%)	25(25.8%)

Table 2
Knowledge on mechanism of reporting cases of CAN by age and gender of the participants

Age (years)	Knowledge on mechanism of reporting cases of CAN		X ²	P
	Yes	No		
20-29	6(16.2%)	30(81.1%)	25.03	0.01
30-39	15(36.6%)	26(63.4%)		
40-49	9(69.2%)	4(30.8%)		
50+	6(100%)	0(0%)		
Gender	Male	24(42.1%)	1.88	0.38
	Female	12(30.8%)		

Table 3
Distribution of participants who had reported cases of CAN by selected independent variables

	Reported case		X ²	P
	Yes	No		
Gender				
Male	16(27.6%)	42(72.4%)	0.05	0.83
Female	10(25.6%)	29(74.4%)		
Seen suspicious case of CAN?				
Yes	26(31.0%)	58(69.0%)	5.49	0.02
No	0(0%)	13(100%)		
Know mechanism of reporting CAN?				
Yes	21(58.3%)	15(41.7%)	29.04	0.00
No	5(8.3%)	55(91.7%)		

Table 4
Actions taken by dental practitioners upon encountering cases of CAN

Action taken on encountering cases of CAN.	Yes	No
Dismissed/ Took no action	9(9.3%)	88(90.7%)
Documented signs in patients records	69(71.1%)	28(28.9%)
Discussed case with child's care giver	51(52.6%)	45(46.4%)
Discussed the case with a colleague	46(47.4%)	51(52.6%)
Contacted any relevant authorities	26(26.8%)	71(73.2%)

Table 5
Distribution of participants according to various barriers to reporting suspicious cases of can response

Barrier to reporting cases of CAN	Yes	No
Lack of certainty in the diagnosis	74(76.3%)	23(23.7%)
Lack of knowledge on reporting procedures for CAN cases	72(74.2%)	25(25.8%)
Fear of consequences to child	71(73.2%)	25(25.8%)
Fear of consequences in child's family	40(41.2%)	55(56.7%)
Fear of family violence towards the child	75(77.3%)	22(22.7%)
Concerns about confidentiality	21(21.6%)	75(77.3%)
Lack of legal obligation to report cases of CAN	73(75.3%)	22(22.7%)
Fear of negative impact on dental practice	81(83.5%)	14(14.4%)
Fear of litigation	82(84.5%)	14(14.4%)
Reporting cases of CAN is against participants norms	89(91.8%)	4(4.1%)

DISCUSSION

CAN is a major unrecognised problem, which can impair the health and welfare of children and adolescents. In Kenya, a multidisciplinary campaign against CAN was launched in 1998, and dentists being key players in the health sector have a role in recognition and reporting cases of CAN (2). The choice of Nairobi City County for this study was informed by the high concentration of both the general dental practitioners and specialists.

The rate of reporting of cases of CAN was highest among paediatric dentists possibly because of their having undertaken more comprehensive training in this area of study. Remarkably, all the participants felt that there was need for continued education on CAN for the dental practitioner. A study by Udum et al (12) found that more than 75% of the participants expressed the need for further training on CAN with regard to the recognition of the signs and symptoms as well as referral procedures. This similarity could be as a result of the dentists not having received adequate training on CAN during their undergraduate studies.

Majority of the participants reported having diagnosed some of the most frequently observed indicators of CAN. However, the impact of CAN on the social and intellectual development was among the least frequently observed indicator of CAN probably due to the difficulty in assessing the impact

in the normal child – dentist encounter. The indicators most frequently observed were the child's poor general and oral hygiene, poor general health, bruises on the child's head and rampant caries possibly due to the relative ease of observing such indicators in the normal child – dentist encounter and the fact that they can be visually observed. These results were similar to those of a study by Bankole *et al* (13) where forms of child abuse recognised included physical, emotional abuse and neglect.

A surprisingly high percentage (86.6%) of the participants reported having seen a suspicious case of CAN at least once in their practice. This was at variance with the findings of other studies. In a Californian study, Gomez *et al.* (14) indicated that 16% participants claimed to have seen or suspected a case of CAN. Similarly, in a Nigerian study 1339.4% of the participants claimed to have seen a case of CAN. These differences may suggest that either there was a high rate of misdiagnosis in the present study or CAN was more common in the paediatric dental patients than is commonly thought. Further studies should be conducted in our Kenyan setup on the actual prevalence of CAN among the paediatric dental patients.

Less than a third (26.8%) of those who had encountered a case of CAN had reported the cases to the relevant authorities. In a study by Sonbol *et al.* (11), 50% of the dentists had suspected a case of CAN

in the last five years yet only 12% had reported their suspicions to relevant authorities. In a similar study by Cairns *et al.* (10) 8% of the participants reported their suspicions. This similarity could be attributed to similar barriers to reporting cases shared among dentists in the present study and dentists in other population groups with the most common barriers having been lack of certainty of the diagnosis and lack of knowledge on the referral procedures.

Among the actions taken after encountering suspected cases of CAN were documenting the observations in the patient's notes, discussing the case with the child's care-giver or a colleague; and contacting the relevant authorities. However, the low percentage of participants who took various actions suggested a need for further education. Even with a vast majority of dentists having been able to recognize suspicious cases of CAN, more than half indicated that lack of certainty of the diagnosis was a barrier to reporting of such cases. This indicates the possibility of cases of misdiagnosis of CAN. This lack of certainty of the diagnosis may have given rise to fear of litigation as a barrier to reporting of cases of CAN as indicated by 84.5% of the participants. In contrast, in a study by Cairns *et al* 2005 (10) and Bankole *et al.*(13), 48% and 64.6% of the participants, respectively, gave fear of litigation as a barrier to reporting suspected cases of CAN. These differences further reinforce the need for further training of dental practitioners among our study population on the diagnosis of CAN and the reporting procedures. It is, therefore, recommended that all practitioners in dentistry endeavor to acquire basic knowledge on CAN diagnosis, reporting procedures and child protection.

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