Original Article

Knowledge and attitude in regards to physical child abuse amongst medical and dental residents of central Gujarat: A cross-sectional survey

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ABSTRACT

Context: Child abuse is a state of emotional, physical, economic, and sexual maltreatment met out to a person below the age of 18 and is a globally prevalent phenomenon. However, in India, there has been no understanding of the extent, magnitude, and trends of the problem. **Aims:** The aim of this study was to determine the level of knowledge and attitudes of medical and dental residents with regards to physical child abuse of central Gujarat. **Materials and Methods:** A cross-sectional survey was conducted among the medical and dental residents of central Gujarat. Data were collected from a self-administered questionnaire for a total of 130 residents, in which 89 medical and 41 dental residents responded. **Results:** Knowledge regarding the social indicator of child abuse was found to be poor in 27.7% (n = 36), average in 68.5% (n = 89), and good in 3.8% (n = 5); and for physical indicator it was found to be poor in 10.8% (n = 14), average 66.9% (n = 87), and good 22.3% (n = 29). Forty-nine percent (n = 64) of the respondents reported having formal training in recognizing child abuse, and 32% (n = 42) had read literature on the topic. Fifty-five percent (n = 72) stated that education regarding child abuse is extremely important. **Conclusions:** Result of the present study found that medical and dental residents are not sufficiently prepared to endure their role in protection of child from abuse. A significant gap existed between recognizing signs of physical child abuse and responding effectively. Improvements in child abuse education and continuing education courses are advised to provide adequate knowledge.

KEYWORDS: Child abuse knowledge, education, residents

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Introduction

Children are a heritage from the LORD; offspring a reward from him (Psalm 127:3, Holy Bible), but humans fails to respect that. Physical child abuse is now documented as an international issue and has been reported in many countries.[1] However, in India there has been no understanding of the extent, magnitude, and trends of the problem till 2007. Study on child abuse scenario was done across the India in 2007 and result suggested that, (i) two out of every three children are physically abused and (ii) 72.2% children in the age group of 5–12 years were being physically abused. This study demonstrated colossal incidence of physical child abuse across India.[2]

Medical and dental professionals are in a unique position for the diagnosis of physical child abuse as 50% of injuries occur in head and neck region and easily assessed.[3] However, research analysis from different parts of the world have indicated that healthcare providers fail to report suspected cases of abuse, mainly due to lack of knowledge.[4-6] Therefore, the quality of the medical education is an important aspect to increase the revealing and documentation of child maltreatment.

The aim of this study was to assess the educational experience and knowledge of medical and dental residents of central Gujarat with regards to physical child abuse and to assess the difference in educational experiences among medical and dental residents.

Materials and Methods

A cross-sectional survey was carried out between May and June 2013. Ethical approval was obtained from Sumandeep Vidyapeeth Institutional Ethics Committee (SVIEC/ON/Dent/SRP/13233). An anonymous, self-administered, 18-question survey was constructed using a multiple choice or true–false format based on previous questionnaires on the topic.[7,8] A field test was conducted with 10 professors and 10 residents to measure concurrent and content validity. All of the professors had extensive knowledge regarding the topic. Concurrent validity for social indicator was 62.46% and for physical indicator was 71.39%. The content validity score for the entire questionnaire was calculated by the Lawshe's (1975) content validity ratio (CVR) formula (CVR = (n_e - N/2)/(N/2); where CVR= content validity ratio, n_e = number of SME panelists indicating "essential", *N* = total number of SME panellists, and SME = subject matter expert). CVR for the questionnaire was 0.8333, that is, 83.33% content validity. Questionnaire was modified as per the expert suggestions. The modified final version of the questionnaire was then used in the study.

Residents of three dental and three medical colleges of central Gujarat were included in the study. Residents of Pedodontics and Preventive Dentistry, Oral Medicine and Radiology, Oral and Maxillofacial Surgery and Orthodontics from dental colleges; and residents of Pediatrics, Radiology, and Orthopedics from medical colleges were included. The questionnaire had an information sheet and consent form for the responders. The questionnaire pro forma was distributed personally and the residents were encouraged to complete all question on the same visit.

Data management was done in Microsoft Excel 2007 and statistical analysis was carried out using Statistical Package for Social Sciences (SPSS) version 17.0 (SPSS Inc). Descriptive statistics was generated for each groups and Mann–Whitney U-test or chi-square test was used to compare between groups. Statistical significance was set at a level of 5% ($P < 0.05$).

Results

A total of 134 responders returned complete questionnaire, among which only four responders were of 1st year and just enrolled in the course; hence, they were excluded from the data to be analyzed. So, total 130 responder's pro forma were analyzed.

Characteristics of the respondents

The characteristics of the respondents are shown in Table 1.

Knowledge of respondents regarding child abuse

The number of respondents who correctly answered each social indicator and physical indicator question is shown in Tables 2 and 3, respectively.

For the social indicators, 3.8% (*n* = 3) of respondents answered all five correctly and 42.3% (*n* = 55) of the

Table 1: Department, residentship, year of residency, and type of institute of respondents (*n* = 130)

Characteristics	N	%
Department		
Pedodontics and preventive dentistry	9	6.9
Oral Surgery	13	10.0
Oral Diagnosis	6	4.6
Orthodontics	15	11.5
Pediatrics	29	22.3
Orthopedics	27	20.8
Radiology	31	23.8
Resident		
Medical	89	68.5
Dental	41	31.5
Year of residency		
2nd year	81	62.3
3rd year	49	37.7
Type of institute		
Government (public)	40	32
Private	90	69

Table 2: Knowledge of the social indicators of child abuse

Question	True *n* (%)	False *n* (%)	Don't know *n* (%)
Children who have been abused, usually tell someone soon after the abuse	36 (27.69)	90# (69.23)	4 (3.08)
If a child readily states that an adult has caused harm, the accusation should be addressed	103# (79.23)	18 (13.85)	9 (6.92)
Child abuse and neglect are primarily associated with the stresses of poverty and rarely occur amongst middle- or high-income earners	104 (80)	21# (16.15)	5 (3.85)
The abuser in most cases is someone the child knows well	107# (82.31)	19 (14.62)	4 (3.08)
The best way to deal with suspected cases of child abuse is to confront the parents and accuse them directly of the abuse	35 (26.92)	78# (60)	17 (13.08)

#Correct answer

respondents answered four of five questions correctly. Four responders (3.1%) answered all questions incorrectly. For the physical indicators, 7.7% (n = 10) of respondents answered all six correctly and 14.6% (n = 19) of the respondents answered five of six questions correctly.

The mean score for all 130 respondents was 3.07 (standard deviation (SD) 1.17) for social indicators and 3.71 (SD 1.10) for physical indicators. The highest mean scores for social indicators were recorded for oral diagnosis (4.0 SD 0.0) followed by pediatrics (3.00 SD 1.28) and pedodontics (2.78 SD 0.83), and lowest scores were recorded for the orthodontics (2.73 SD 1.10). The highest mean scores for physical indicators were recorded for pedodontics (4.11 SD 1.45) followed by oral surgery (4.00 SD 1.08), and lowest scores were recorded for the orthodontics (3.47 SD 1.30). Descriptive statistical analysis has been shown in the Table 4.

Table 3: Knowledge of the physical indicators of child abuse

Question	True *n* (%)	False *n* (%)	Don't know *n* (%)
Bruises over bony prominences are suspicious of abuse (e. g., chin, elbows, and knees)	76 (58.46)	45# (34.62)	9 (6.92)
Repeated injury to the dentition resulting in discolored or avulsed teeth may indicate repeated trauma from abuse	53# (40.77)	67 (51.54)	10 (7.69)
Burns are associated with many child abuse cases	61# (46.92)	64 (49.23)	5 (3.85)
Bitemarks on a child should be investigated as an indicator of abuse	100# (76.92)	21 (16.15)	9 (6.92)
Emotional and psychological signs of abuse may include fear of going home or of the parents	120# (92.31)	5 (3.85)	5 (3.85)
A history that is vague and differs every time the parent tells it is a possible indicator of abuse	103# (79.23)	12 (9.23)	15 (11.54)

#Correct answer

Education background and attitude of respondents

Educational background of the responders and attitude regarding the child abuse showed variations in medical and dental residents [Table 5]. Almost 48-60% of the residents had a belief for the importance of the child abuse education and the awareness of Indian laws pertaining to child protection and abuse. More than 90% of the residents wished to improve their knowledge regarding child abuse and protection.

The child abuse is found not to be reported by the residents based on suspicions, as 30% of them felt that lack of adequate history and 17% of them did not want any legal obligation or knowledge of right authority personnel to who the case can be reported [Table 6].

Discussion

This cross-sectional study was carried out to assess the knowledge and attitude of medical and dental residents of central Gujarat. The specialty which involves in diagnosis and/or treatment of the children was included. Total 134 responders have returned complete questionnaire. Amongst them, only four responders were in 1st year and had just enrolled in the course, and hence were excluded from the study. An anonymous, self-administered questionnaire was used in the study. A field test was conducted to measure concurrent and content validity. Values of both concurrent and content validity suggest the questionnaire is valid for the study. Distribution of questionnaire pro forma was done personally through e-mail or post to avoid the temptation by the respondents to check and possibly correct their answers.

An important prerequisite for reporting suspected cases of child abuse is the basic knowledge about what to look for and how to diagnose these cases. The results in this study show that the knowledge of the respondents about the indicators of child abuse was

Table 4: Mean scores according to characteristic of the respondents

Characteristic of the respondents			Mean	Standard deviation	95% CI for mean	*P* - value*
Knowledge of social indicator	Residents	Medical	3.15	1.21	2.56–3.25	0.11
		Dental	2.90	1.09	2.89–3.40	
	Year of residency	2nd year	2.96	1.19	2.70–3.23	0.11
		3rd year	3.24	1.12	2.92–3.57	
Knowledge of social indicator	Residents	Medical	3.69	1.06	3.38–4.13	0.66
		Dental	3.76	1.20	3.46–3.91	
	Year of residency	2nd year	3.84	1.08	3.60–4.08	0.10
		3rd year	3.49	1.10	3.17–3.81	

*Mann–Whitney U-test; CI = Confidence interval

Table 5: Education background and attitude regarding child abuse

Question	Medical (%)	Dental (%)	*P* - value*
Source of information on child abuse education			0.75
Formal training in college	46.1 (41)	56.1 (23)	
Read literature	34.8 (31)	26.8 (11)	
Continuing education courses/symposium	11.2 (10)	9.8 (4)	
None of above	7.9 (7)	7.3 (3)	
Beliefs regarding importance of child-abuse education			0.87
Extremely important	53.9 (48)	58.5 (24)	
Important	42.7 (38)	39.0 (16)	
Not so important	3.4 (3)	2.4 (1)	
Awareness regarding Indian laws related to child abuse			0.20
Yes	60.7 (54)	48.8 (20)	
No	39.3 (35)	51.2 (21)	
Are you satisfied with the knowledge regarding child abuse			0.60
Yes	23.6 (21)	19.5 (8)	
No	76.4 (68)	80.5 (33)	
Do you wish to improve your knowledge regarding child abuse			0.50
Yes	95.5 (85)	92.7 (38)	
No	4.5 (4)	7.3 (3)	
By which means you wish to update your knowledge			0.94
Continuing education courses/symposium	37.1 (31)	39.0 (16)	
Continuing education courses/symposium and Inform booklet	4.5 (4)	2.4 (1)	
Inform booklet	25.8 (23)	22.0 (9)	
Inform booklet and self-study	3.4 (3)	2.4 (1)	
Modification in regular curriculum	21.3 (19)	22.0 (9)	
Self-study	7.9 (7)	12.2 (5)	

*Chi-square test

Table 6: Reasons for not reporting suspicions case of child abuse

Reason	*N*	%
Fear of anger from parents and family	8	6.15
Lack of knowledge of referral procedures	8	6.15
Uncertainty about diagnosis	23	17.69
Lack of adequate history	40	30.77
Possible effect on the child's family	20	15.39
No legal obligation or authority to report	22	16.92
Possible effect on my practice	27	20.77
Fear of litigation	8	6.15
No reason	13	10

unsatisfactory with 3.8% of respondents answering all five social indicator questions correctly and only 7.7% answering all six physical indicator questions correctly. The findings of the present study indicated a problem of lack of knowledge in many areas related to signs of physical abuse, as has been reported in similar studies in other parts of the world.[7-10] Comparing with the similar reports from India, Kirankumar *et al*., (2011)[11] found that medical professionals of Bagalkot district of north Karnataka had poor knowledge as they undervalued the topic. An important indicator of the quality of abuse education in responders is the self-assessed level of knowledge in our study. Most respondents indicated that they thought the level of their knowledge on the topic was not sufficient for them to undertake their future responsibility in protecting children against abuse. In addition, the fact that level of knowledge was not significantly different between medical and dental residents necessitates critical revision of the content in curriculum in regard to this topic. This signified that lack of sufficient training could be due to the fact that students learned about abuse topic in classroom settings, which was not reinforced in clinical settings as was explained by Thomas *et al*., 2006.[10]

Education is the critical factor in enhancing the ability of professionals to detect cases and increase their confidence and commitment to reporting suspicious cases.[10] An analysis of the sources of information about child abuse for participants showed that 46.1% medical and 56.1% dental residents had formal education in child abuse. These results are similar to that of the study from Bagalkot District (Karnataka),[11] but higher than that of the results from the studies in Jordan,[7,8] UK,[12,13] US,[4,14] and Scotland.[9] 11.2% medical and 9.8% dental residents of the respondents had undertaken post-qualification training, which is lower than 16% reported in the US[4] and Scotland,[9] 33% in US,[14] and 87% reported for dental professionals in UK.[12] 34.8% medical and 26.8% dental residents in this study read literature on the subject, which is lower than 56% reported in US,[10] 60% in Jordan,[8] and 84% reported by dentists in US.[14]

Education factors also influenced responding residents' beliefs in realizing how important recognizing signs of child abuse are by the medical profession. It is promising that only a small number (3%) of the respondents believed that child abuse recognition by the residents was 'not so important'. This result is comparable to the result (2%) reported by dentists in Jordan.[8] Also similar to results of the study reported by medical professionals of Bagalkot district, as 92% of medical professionals agree that protection of child's health is their duty.[11] The awareness of Indian laws pertaining to child protection and abuse of medical residents was 60.7% and 48.8% of dental residents. More than 90% of the residents wished to improve their knowledge regarding child abuse and protection, which shows their positive attitude. Almost 40% of responders wished to have continuing education course/symposium on the topic of child abuse and protection. Informed booklet and modification in regular curriculum were also one of the preferred means for improving the knowledge.

The main reasons for responders not reporting cases that had otherwise been suspicious would be lack of adequate history, possible effect on their practice, and uncertainty about diagnosis. Uncertainty about diagnosis, as an influencing factor for dentists has been reported in Australia,[4] Scotland,[15] UK,[12] Northern Ireland,[16] Denmark,[17] US,[14] and in Nigeria.[18] In a survey of dentists, doctors and nurses of Northern Ireland,[16] it was found that a lower percentage of dentists (18%) compared with nurses (44%) and general practitioners (GPs; 38%) knew the mechanisms for reporting child physical abuse and they had lower scores in identifying abuse compared with nurses and GP's. These uncertainties may be lessened by adequate child protection training.[19] A factor by which few responders were influenced in reporting their suspicions was fear of litigation; this finding is similar to other studies.[4,8,12] Impact on their practice was also a major reason for not reporting suspicious case, which is in contrast with the other reported studies.[8,20,21]

Conclusions and recommendations

Medical and dental residents are not sufficiently prepared to endure their role in protection of child from abuse. It was observed that there was a deficiency in recognizing and reporting signs of physical child abuse. In addition, knowledge of residents about the indicators of physical child abuse is poor and needs to be improved. The main reasons for not reporting child abuse included lack of adequate history and possible effect on practice.

The lack of knowledge in the responders might be because of the limitations of lecture-based education. Improvements/reforms in curriculum and continuing education programs on the topic of child abuse and protection should be done. The outcome of education has to be assessed on a regular basis, and constant improvement must be made according to the changing situation to better prepare residents in recognition and procedure of reporting child abuse.

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