

# Workplace Assault and Its' Impact to Service Delivery amongst Dental Professionals at Tertiary Hospitals in Northern Nigeria

**\*Basil Tochukwu OJUKWU, \*Sani Auwalu BALARABE \*\*Mohammed A.S. ABDULLAHI, \*\*\*Thomas OWOBU, \*\*\*\*Daniel O. OSUNDE, \*\*\*\*\* Kelvin U. OMEJE, \*\*\*\*\* Olawale Akeem SOTUNDE**

*[\*Inter-country Centre for Oral Health (ICOH) for Africa, Jos, Plateau State.*

*\*\*Federal Medical Centre, Nguru, Yobe State.*

*\*\*\*Dental and Maxillofacial Surgery Department, University of Maiduguri Teaching Hospital, Maiduguri, Borno State.*

*\*\*\*\*Dental and Maxillofacial Surgery Department, University of Calabar Teaching Hospital, Cross Rivers State.*

*\*\*\*\*\*Faculty of Dentistry, Bayero University Kano, Kano State]*

## Correspondence

*Dr. Basil Tochukwu Ojukwu.*

*Department of Public Health,*

*Inter-country Centre for Oral Health (ICOH) for Africa*

*Jos, Plateau state.*

*E-mail: macbasil@yahoo.com*

## ABSTRACT

**Objective:** The growing global public health concern of workplace assaults has necessitated that workers' health and safety be given same priority as patient's safety. The study assessed the prevalence of workplace assault and its' impact on service delivery among dental professionals at tertiary hospitals in Northern Nigeria.

**Methods:** A cross-sectional survey of 60 dental professionals working in tertiary hospitals actively involved in undergraduate and postgraduate trainings for dental workforce in Northern Nigeria. Multi-stage sampling technique was used in selection of respondents and participation was voluntary. Data was collected using structured self-administered questionnaire. Statistical analysis was done using SPSS version 23.0 and p-value  $\leq 0.05$  was considered statistically significant. Ethical approval was received.

**Results:** Sixty percent dentists and 40.0% dental auxiliaries participated in the study. Assault prevalence was 38.3% observed more among dental professionals (44.0%) in their first year in practice. Types of assaults experienced were; non-physical 19 (82.6%) with loud shouting and threats as most frequent, physical 3 (13.0%) with bullying and mobbing most frequent, and combination was 1 (4.4%). Patients (60.9%) and relatives (52.2%) were major culprits, and long appointment (65.2%) and treatment cost (60.9%) were main reasons for assault. Respondents (39.1%) expressed impact on their productivity and 69.6% respondents were ill-prepared to handle it.

**Conclusion:** The prevalence of workplace assaults on dental professionals was fairly high and those in their first year in practice suffer more assault than others. Assault preventive programs should however specifically target this group in consideration with the unique nature and varied needs of each healthcare institutions.

**Key words:** Workplace, assault, dental professionals, auxiliaries

**Citation:** Ojukwu BT, Balarabe SA, Abdullahi MAS, Owobu T, Osunde OD, Omeje KU, Sotunde OA. Workplace Assault and Its' Impact to Service Delivery amongst Dental Professionals at Tertiary Hospitals in Northern Nigeria. *Nig J Dent Res* 2020; 5(2):123-130.

## INTRODUCTION

Assault, as an occupational hazard, is on the rise globally and can be experienced in the delivery of services worldwide.<sup>1</sup> It however varies in nature and

degree, differing between and within countries, gender, and type of services provided. It is a multi-faceted and multi-causal social as well as legal public health issue of concern facing all occupations the

world over.<sup>1-6</sup> The growing global public health concern of workplace safety from reported cases of school and workplace shootings, bombings, kidnap/hostage-taking among others is gradually eroding the traditional view of workplace as a sane, cordial and violence-free environment guided by occupational safety, health laws and regulations for all.<sup>4,7</sup> Although assault in healthcare centres have been reported to differ in occurrence within and between countries as well as health institutions and specializations, however, about 60% are known to occur in the healthcare centres with the emergency department experiencing most assaults amongst healthcare providers.<sup>4-14</sup> Globally, researchers had observed varied assault prevalence among health workers; 49.5% in Turkish healthcare setting,<sup>8</sup> 63.7% amongst urban General Practitioners in New South Wales Australia,<sup>9</sup> 21% amongst General Practitioners in Dublin Ireland,<sup>10</sup> 88% health workers in Nigeria<sup>11</sup> and 31.9% among oral health professionals.<sup>12</sup> Dentist and dental auxiliaries are at high risk of workplace assault because they frequently come in contact with people in distress and pain who may want immediate attention.<sup>12-15</sup> These have raised serious workplace safety and public health concern as it increases anxiety and undermines the dental professionals' ability to focus on safety in addition to effective and competent service delivery.<sup>12</sup> Northern part of Nigeria constitutes two-third in both landmass and population of the country hence, dental professionals (1:260,000 dentist/population) face daily enormous task in meeting the teeming population high unmet oral healthcare treatment needs.<sup>15,16</sup> The tertiary hospitals in this region also serve as referral centers for neighbouring countries such as Niger, Chad and Cameroun which similarly suffer dearth of dental professionals.<sup>13,15</sup> The dearth of information in published literature of workplace assaults on dental professionals from this region of the country necessitated the study. It was aimed at providing base-line data on workplace assault experience and its' impact among dental professionals on service delivery at tertiary hospitals in Northern Nigeria.

### MATERIALS AND METHODS

The study was a descriptive cross-sectional survey of Dentists and Dental auxiliaries working at tertiary hospitals actively involved in undergraduate and

postgraduate trainings in Northern Nigeria. Multi-stage sampling technique was adopted as the Northern Nigeria was stratified based on geopolitical zones into Northwest, Northeast and Northcentral. One tertiary hospital which met the inclusion criteria was selected from each geopolitical zone by balloting viz: Northwest (Aminu Kano Teaching Hospital, Kano state), Northeast (University of Maiduguri Teaching Hospital, Borno state) and Northcentral (none met the inclusion criteria). At each institution, a list of dental professionals present at workplace during working hours was obtained and every second person was selected. Professionals who were absent on the day of the study were excluded. Dentists and Dental auxiliaries who experienced workplace assault in the last one year and had expressed interest to participate consented. A pretested self-administered close-ended questionnaire were administered, data collected were edited and entered into a personal computer. Statistical analysis was done using IBM SPSS version 23.0). Chi-square test and Fisher's exact test (where appropriate) were used to test associations and a p-value  $\leq 0.05$  was considered statistically significant. Ethical approval was received.

### RESULTS

Seven two study questionnaires were distributed and 60 questionnaires were returned as correctly filled, giving a response rate of 83.3%. The majority of the participants were males (76.7%), aged group 26-35 years (66.7%) and dentists (60%) (Table 1). Major victims of assaults were female (57.1%), aged group 26-35 years (60.9%), dental auxiliaries (41.7%), and those in their first year in practice (44.0%) (Table 2 & 3). The non-physical assault (82.6%) was the most prevalent type of assault, with loud shouting and threats as most frequent (Table 4 & 5). The major culprits were the patients (60.9%) and patient's relatives (52.2%), and long appointments (65.2%) and treatment cost (60.9%) were reasons given for the assault (Figure 1 & 2). Participants expressed impact on service delivery and also workplace safety concern were 39.1%, 26.1% participants had mild effect on service delivery, 52.2% participants were not aware of a reporting system at their institution, 69.6% were unprepared to handle assault and 17.4% have had assault related legal issues. (Table 6).

Table 1: Demographic characteristics of dental professionals

## Workplace Assault and Its' Impact to Service Delivery amongst ...

Variables	Frequency	Percentage
<b>Gender</b>		
Male	46	76.7
Female	14	23.3
<b>Age group (years)</b>		
18 – 26	6	10.0
26 – 35	40	66.7
36 – 55	12	20.0
>55	2	3.3
<b>Occupation</b>		
<b>Dentists</b>	<b>36</b>	<b>60.0</b>
Senior Registrars	6	16.6
Registrars	10	27.8
Dental officers	1	2.8
House Officers	19	52.8
<b>Dental Auxiliaries</b>	<b>24</b>	<b>40.0</b>
Dental Nurse	1	4.2
Dental Surgery Assistance/DHT	14	58.3
Technologist	1	4.2
Therapist	8	33.3
<b>Hospital</b>		
AKTH	36	60.0
UMTH	24	40.0
Total	60	100.0

**Key:** DHT = Dental Health Technician, AKTH = Aminu Kano Teaching Hospital, UMTH = University of Maiduguri Teaching Hospital.

Table 2: The prevalence of workplace assault amongst dentist and dental auxiliaries

Variables	Yes (%)	No (%)	Total (%)	$\chi^2$	Df
<b>Gender</b>				0.098	1
Male	15 (32.6)	31(67.4)	46(100.0)		
Female	8 (57.1)	6(42.9)	14(100.0)		
<b>Age group (years)</b>				0.883*	3
18 – 26	3 (50.0)	3(50.0)	6(100.0)		
26 – 35	14 (35.0)	26(65.0)	40(100.0)		
36 – 55	5 (41.7)	7(58.3)	12(100.0)		
>55	1 (50.0)	1(50.0)	2(100.0)		
<b>Location</b>				0.329	1
AKTH	12(33.3)	24(66.7)	36(100.0)		
UMTH	11(45.8)	13(54.2)	24(100.0)		
<b>Occupation</b>				0.665	1
Dentist	13 (36.1)	23 (63.9)	36 (100.0)		
Dental Auxiliaries	10 (41.7)	14 (58.3)	24 (100.0)		
<b>Years in practice</b>				0.956	4
< 1 year	11 (44.0)	14(56.0)	25(100.0)		
>1<5 years	3 (30.0)	7(70.0)	10(100.0)		
>5<10 years	5 (38.5)	8(61.5)	13(100.0)		
>10<20 years	3 (37.5)	5(62.5)	8(100.0)		
>20 years	1 (25.0)	3(75.0)	4(100.0)		
Total	23 (38.3)	37 (61.7)	60 (100.0)		

Key: \*=Fisher's exact, AKTH = Aminu Kano Teaching Hospital, UMTH = University of Maiduguri Teaching Hospital.

Table 3: The distribution of workplace assault amongst Dental professionals

## Workplace Assault and Its' Impact to Service Delivery amongst..

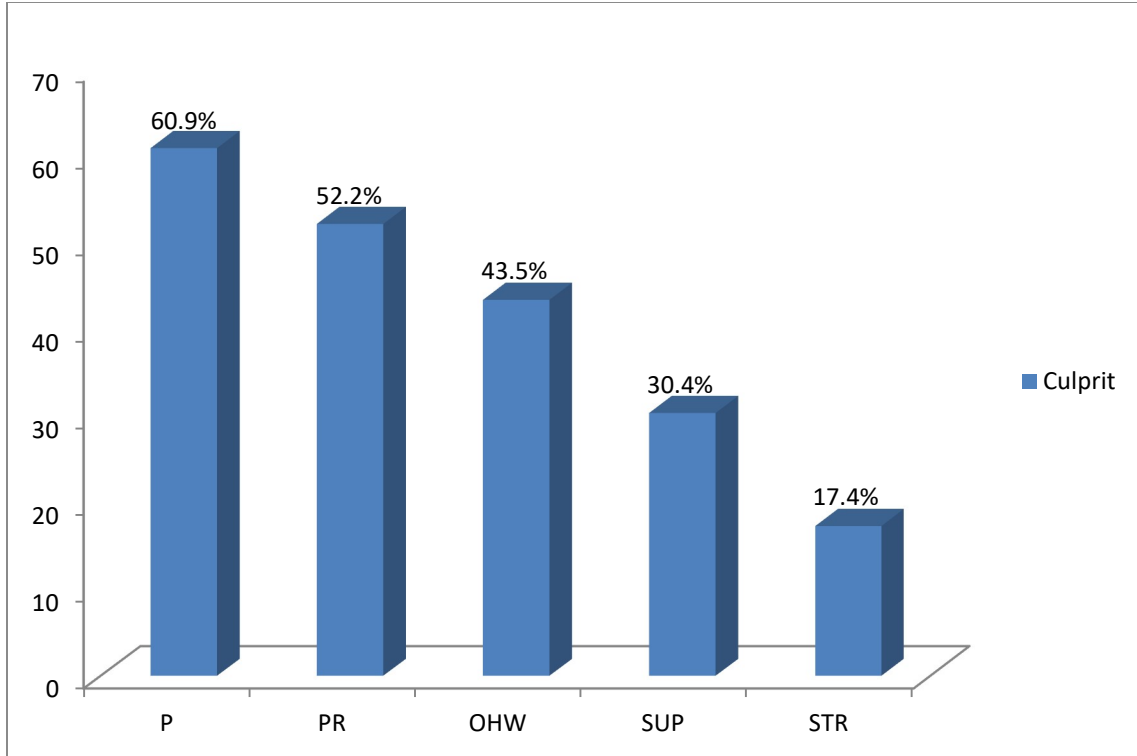
Variables	Assault prevalence		
	Yes (%)	No (%)	Total %
<b>Dental professionals</b>			
Dentists			
Senior Registrars	1(16.7)	5(83.3)	6(100.0)
Registrars	4(40.0)	6(60.0)	10(100.0)
Dental Officers	0(0.0)	1(100.0)	1(100.0)
House Officers	8(42.1)	11(57.9)	19(100.0)
<b>Total</b>	<b>13(36.1)</b>	<b>23(63.9)</b>	<b>36(100.0)</b>
<b>Dental Auxiliaries</b>			
Dental Nurse	1(100.0)	0(0.0)	1(100.0)
Dental Surgery Assistance/DHT	2 (14.3)	12(85.7)	14(100.0)
Dental Therapist	6 (75.0)	2(25.0)	8(100.0)
Dental Technologist	1 (100.0)	0(0.0)	1(100.0)
<b>Total</b>	<b>10(41.7)</b>	<b>14(58.3)</b>	<b>24(100.0)</b>

Table 4: Types of workplace assault experienced amongst Dental professionals

Variables	Frequency	Percent
<b>Assault type</b>		
Non-Physical	19	82.6
Physical	3	13.0
Combined	1	4.4
<b>Total</b>	<b>23</b>	<b>100.0</b>

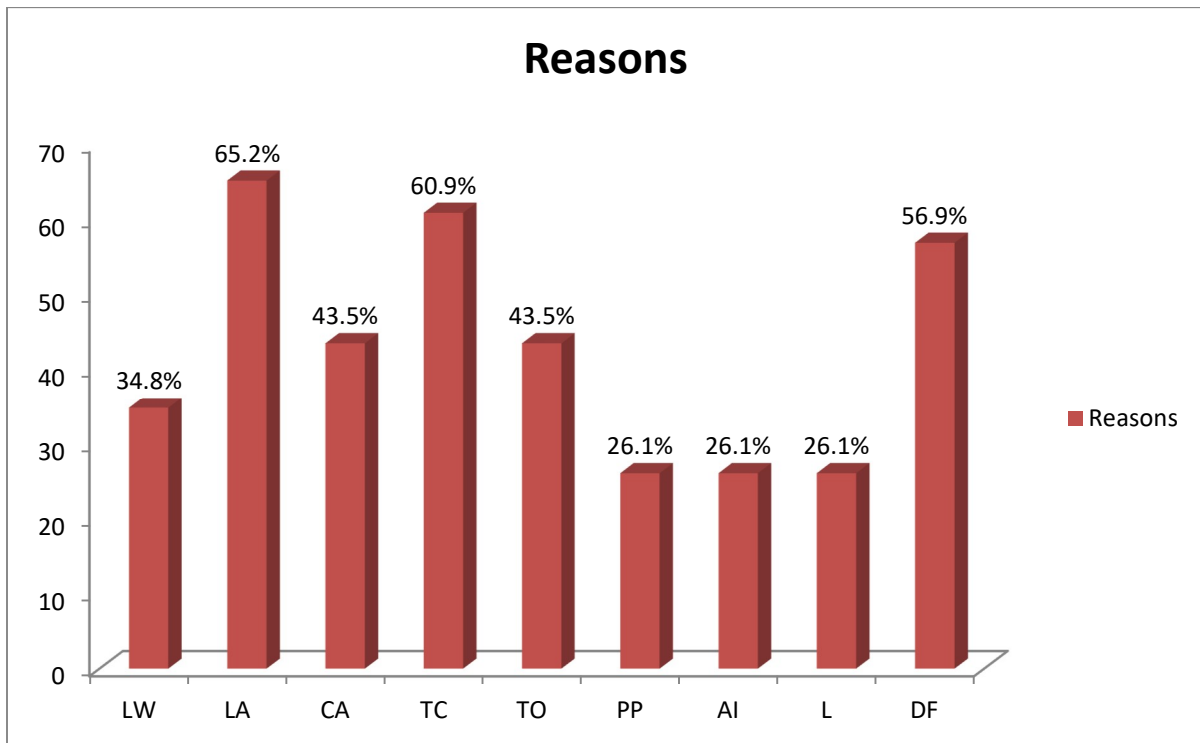
Table 5: Frequency distribution of type of assault amongst dental professionals

Variable	Workplace Assault		Total %	Frequency	
	Yes %	No %		Once	>Once
<b>Assault type</b>					
<b>Non-Physical</b>					
Verbal	14 (60.9)	9(39.1)	23(100.0)	11(78.6)	3(21.4)
Loud shouting	15(65.2)	8(34.8)	23(100.0)	5(33.3)	10(66.7)
Threat	15(65.2)	8(34.8)	23(100.0)	4(26.7)	11(73.3)
Swearing	10(43.5)	13(56.5)	23(100.0)	5(50.0)	5(50.0)
Sexual Harassment	3(13.0)	20(87.0)	23(100.0)	2(66.7)	1(33.3)
<b>Physical</b>					
Bullying	3(13.0)	20(87.0)	23(100.0)	1(33.3)	2(66.7)
Hitting	2(8.7)	21(91.3)	23(100.0)	1(50.0)	1(50.0)
Mobbing	3(13.0)	20(87.0)	23(100.0)	2(66.7)	1(33.3)
<b>Combined</b>	<b>1(4.3)</b>	<b>22(95.7)</b>	<b>23(100.0)</b>	<b>1(100.0)</b>	<b>0(0.0)</b>



Key: P = Patients, PR = Patient's Relatives, OHW = Other Health Workers, SUP = Superiors, STR = Strangers

Figure 1: Culprits of workplace assault among dental professionals



Keys: LW = Long Waiting Time, LA= Long Appointment, CA= cancellation of Appointment, TC= Treatment Cost, TO= Treatment Output, PP= Psychiatric Patients, AI= Alcohol Intoxication, L= Lateness, DF= Delay/Failure to do a given task.

Figure 2: Reasons for workplace assault against dental professionals

Table 6: The Impact of workplace assault amongst Dental professionals

Variables	Workplace assault impact		Total
	Yes %	No %	
<b>Impact</b>	9 (39.1)	14 (60.9)	23(100.0)
<b>Nature of Impact</b>			
Fear	7(30.4)	16(69.6)	23(100.0)
Psychological problem	6(26.1)	17(73.9)	23(100.0)
Missed work	6(26.1)	17(73.9)	23(100.0)
<b>Service Delivery Impact</b>			
Mild effect	6 (26.1)	17(73.9)	23(100.0)
<b>Workplace concern</b>			
Concerned	9(39.1)	14(60.9)	23(100.0)
<b>Assault Preparedness</b>			
Prepared	7 (30.4)	16(69.6)	23(100.0)
Reporting system awareness	11(47.8)	12(52.2)	23(100.0)
Legal issues	4(17.4)	19(82.6)	23(100.0)

## DISCUSSION

The dental professionals in Nigeria face enormous task of meeting the oral healthcare needs of the teeming population, hence, they frequently come in contact with people in distress and pain who may want immediate attention. They often encounter varied occupational hazards in meeting the healthcare needs of their clients. These hazards may present as workplace assault which affects the employee, employer, patients, families and the society at large.<sup>1</sup> In this study, the prevalence of workplace assaults was 38.3% among dentists and dental auxiliaries, higher than similar studies conducted in tertiary hospitals in southern part of Nigeria with reported prevalence rates of 31.9 % among dental professionals<sup>12</sup> and 21.5% among doctors/dentists.<sup>17</sup> This observation was however lower than reported prevalence rates among other health-workers; 88.1% in a tertiary hospital in south east<sup>21</sup> and southwest<sup>17</sup> Nigeria, 58.2% in health workers in Ethiopia,<sup>18</sup> 83.4% in Greek tertiary hospital (Mantzouranis et al).<sup>19</sup> The degrading socio-economic status might have been responsible in eroding the friendly disposition that existed between patients and their relatives with healthcare providers hence,<sup>12,20</sup> manifested as assaults. More so, the increasing oral health awareness amongst Nigerians coupled with the scarcity of dentists and dental auxiliaries in the study environment may have exposed them to increased pressure at workplace.<sup>13,15</sup> Overcrowding and workload have been reported as most common cause of workplace assault.<sup>21</sup>

Workplace assaults have been reported to be endemic in health care sector.<sup>22,23</sup> The dental professionals in Nigeria experience varied workplace assault ranging from non-physical to physical assaults.<sup>12</sup> The distribution of workplace assaults observed in this study were 82.6% non-physical, 13.0% physical and 4.4% combined. Loud shouting (65.2%) and threats (65.2%) were observed as the most frequent non-physical assault while physical assault were bullying (13.0%) and mobbing (13.0%). However, a lower percentage (50.0%) of loud shouting as a non-physical assault was observed among same population in similar environment.<sup>12</sup> Researchers have opined that physical assault has been reported as the third leading cause of death at workplace.<sup>1-5</sup> Hence, workplace assaults should never be accepted nor tolerated as part of the job no matter how frequently or infrequent it occurs. Consequently, worker's safety and health should receive the same priority as patient's safety.<sup>1,24</sup> Quality healthcare partly depends on the quality of the relationship between oral healthcare providers and their clients. The study observed that major culprits were patients (60.9%) and patient's relatives (52.2%), and most frequent reasons given were long appointment (65.2%) and treatment cost (60.9%). Other researchers observed similar findings but reported lower percentage; 54.5% patients and 18.2% patient's relatives/friends, 27.3% long patient's waiting time and cancellation of appointment 13.6% in southern Nigeria by Azodo et al.<sup>12</sup>

Dental professionals are more susceptible than other healthcare workers to occupational violence in

hospitals and clinics because dental clinics are usually crowded and most clients present because of pain. The study observed that dental auxiliaries (41.7%) experienced more assaults than dentists (36.1%), however, other researchers reported dentists or dental auxiliaries as equal victims.<sup>11,12</sup> Healthcare workers in their first year of employment were prone to assaults when compared to others.<sup>24</sup> Dental professionals (44.0%) in their first year in practice were observed to experience more assault than others in the study environment. Greater percentage (57.1%) of female respondents experienced assaults in the study environment. This observation was in consonance with female preponderance to workplace assaults as reported by other researchers.<sup>24</sup> However, Azodo et al.<sup>22</sup> observed no gender difference in the occurrence of workplace assault in southern Nigeria. Workplace violence from high-income countries have shown to affect the psychological wellbeing of affected health care workers,<sup>25</sup> however little has been reported from low income countries such as Nigeria. Although slightly above sixty percent of dental professionals reported no impact at the study environments, however, others reported varied impact to service delivery as 30.4% respondents expressed fear, 26.1% claimed to have had psychological problem while 26.1% missed work. The higher impact percentage findings above contrary to other observations,<sup>12,24</sup> raises concern as significant proportion of health workers have been reported to be at risk of developing psychiatric morbidity in relative environment.<sup>26</sup>

Workplace assault occurrence is associated with various negative outcomes and undermines health worker's ability to focus on their jobs.<sup>24</sup> Consequently, the study observed that 26.1% expressed mild effect on their productivity output and 39.1% expressed workplace safety concerned. Oftentimes, these workplace assaults are underreported or unnoticed and most victims were ill-prepared to handle it. About thirty percent respondents claimed that they were prepared to handle cases of assault while 52.2% dental professionals reported that they are unaware of any existing reporting system at their institution. This may reflect the attitude of most dental professionals being indifferent to taking action against such.<sup>27</sup> The study also reported 17.4% of participants have had legal issues resulting from assault. The observed value may not be unconnected with increasing awareness of clients to patient's charters in demand for service delivery among Nigerians. The occurrence

of such assault demonstrates the need for improved preventive and protective measures to create safer working environment for dentists and dental auxiliaries.<sup>24</sup> Hence, dentists and dental auxiliaries need to understand what assault is and the risks posed by failure to undertake a full, frank and open discussion with patient about their dental care management plans. There is therefore a need to prevent or limit the frequency of occurrence of workplace assault.<sup>27</sup> Assault prevention programs should however specifically target the unique nature and varied needs of each organization, and also flexible to recognize the variations and complexities of healthcare institutions.<sup>27,28,29</sup>

### CONCLUSION

The prevalence of workplace assault was 38.3% with females and first year in-practice dental professionals as major recipients. Although majority of such assault were non-physical, however, it had considerable impact in service delivery among dental professionals with greater than half unaware of any existing workplace assault reporting system at their institution.

### Recommendations

1. Orientation programs and workplace safety measures for dental professionals in their first year in practice depending on institution peculiarities.
2. Desensitization programs for patients and their relatives coming into any health facilities across the country.
3. Establish assault complaint reporting system so as to help address such cases.

### Source of Support

Nil.

### Conflict of Interest

None declared.

### REFERENCES

1. Demsky CA, Fritz C, Hammer LB, Black AE. Workplace Incivility and Employee Sleep: The Role of Rumination and Recovery Experiences. *J Occup Health Psychol* 2019;24(2):228–240.
2. Litwin B. Analysis and Application: A conceptual framework for a multi-factor, multi-level analysis of the origins of workplace violence ILSA. *J Int'l & Comp L.* 2002;8(3):825-855.

3. Mayhew C, Chappell D. Workplace violence: An overview of patterns of risk and emotional stress consequences on targets. *Int J Law Psychiatry* 2007;30(4-5):327-339.
4. World Health Organization. Author. World report on violence and health. Geneva; WHO: 2002. [http://www.who.int/violence\\_injury\\_prevention/violence/world\\_report/en/FullWRVH.pdf](http://www.who.int/violence_injury_prevention/violence/world_report/en/FullWRVH.pdf).
5. Anderson DG. Workplace. Violence in long haul trucking; occupational health nursing update. *AAOHN Journal*. 2004;52(1):23-27.
6. Gambhir SR, Singh G, Sharma S, Brar R, Kakar H. Occupational health hazards in current dental profession- a review. *Open Occup Health Saf J*. 2011; 3:57-64.
7. Walsh LJ. Workplace Health and Safety in Contemporary Dental Practice. Australian Dental Association (Qld). 2008; (2nd ed.):5-26.
8. Ayranci U, Yenilmez C, Balci Y, Kaptanoglu C. Identification of violence in Turkish health care settings. *J Interpers violence*. 2006;21(2):276-296.
9. Magin PJ, Adam J, Sibbritt DW, Joy F, Ireland MC. Experiences of occupational violence in Australian urban general practice: a cross-sectional study of GPs. *Med J Aust*. 2005;183(7):352-356.
10. Gates DM, Ross CS, McQueen. Violence against emergency department workers. *J Emerg Med* 2006;31(3):331-337.
11. Ogbonnaya GU, Ukegbu AU, Aguwa EN, Emma-ukaegbu U. A study on workplace violence against health workers in a Nigerian tertiary hospital. *Niger J Med*. 2012;21(2):174-179.
12. Azodo CC, Ezeja EB, Ehikhamenor EE. Occupational violence against dental professionals in Southern Nigeria. *Afr Health Sci*. 2011;11(3):486-497.
13. Danfillo IS. Oral Health Challenges for Sub-Saharan Africa. *Niger Med J* 2009;50(4): 90-94.
14. Adebola RA, Owotade FJ. Occupational hazards among clinical dental staff. *J Comptemp Dent Pract* 2004; 5:134-152.
15. Adebola RA, Babatunde OB, Joshua BA, Ladeinde AL. A new dental school in Kano, Nigeria: the road map, challenges and prospects. *Indo Afr J Educ Res* 2014;2(4):01-06
16. National Bureau of Statistics. Demographic Statistics Bulletin 2017:1;7-12.
17. Abodurin OL, Adeoye OA, Adeomi AA, Akande TM. Prevalence and forms of violence against health care professionals in a south-western city, Nigeria. *Sky J Med Med Sci* 2014;2(8):67-72
18. Yenealem DG, Woldegebriel MK, Olana AT, Mekonnen TH. Violence at work: determinants & prevalence among health care workers, northwest Ethiopia: an institutional based cross sectional study. *Ann Occup Environ Med* 2019; 31:8-15.
19. Mantzouranis G, Fafliora E, Bampalis VG, Christopoulou I. Assessment and analysis of workplace violence in a Greek tertiary hospital. *Arch Environ Occup Health* 2015;70(5):256-264.
20. Myers HL, Myers LB. 'It's difficult being a dentist': stress and health in the general dental practitioner. *Br Dent J* 2004; 197:89-93.
21. Darawad MW, Al-Hussami M, Saleh AM, Mustafa WM, Odeh H. Violence against nurses in emergency departments in Jordan: Nurses perspective. *Workplace Health Saf* 2015;63(1):9-17.
22. Gillespie L, Gates D, Berry P. Stressful incidents of physical violence against emergency nurses. *Online J Issues Nurs* 2013;18(1):76-88.
23. Nelson R. Tackling violence against health-care workers. *Lancet* 2014; 383:1373-1374.
24. Binmadi NO, Alblowi JA. Prevalence and policy of occupational violence against oral healthcare workers: Systematic review and meta-analysis. *BMC Oral Health* 2019; 19:279-286.
25. Philips JP. Workplace violence against health care workers in the United States. *New Eng J Med* 2016;374(17):1661-1669.
26. Seun-Fadipe CT, Akinsulore A, Oginni OA. Workplace violence and risk for psychiatric morbidity among health workers in a tertiary health care setting in Nigeria: Prevalence and correlates. *Psychiat Res* 2019; 272:730-736.
27. Rees CE, Monrouxe LV, Ternan E, Endacott R. Workplace abuse narratives from dentistry, nursing, pharmacy and physiotherapy students: A multi-school qualitative study. *Euro J Dent Educ* 2015; 19:95-106.
28. Khoury BS, Khoury JN. Dentistry and criminal law. *Aust Dent J* 2017; 62:295-300.
29. Greene J. Legal issues. After an assault. *Hosp Health Netw* 2002;76(6):1