



Experience of interpersonal violence and subjective levels of aggression among healthcare staff in a Nigerian hospital

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ABSTRACT

Background: Workplace violence in the health sector is an issue of major public health. Little is known of assessment of aggression among victims of violence is quite relevant.

Objective: A cross-sectional descriptive study of the occurrence of violence experienced by healthcare staff of a tertiary healthcare facility.

Method: A descriptive cross-sectional study of 127 healthcare workers. The instrument comprised of an explorative questionnaire and an extract of the Buss–Perry Aggression Questionnaire.

Results: Eighty-five (66.9%) of 127 respondents had experienced work-related violence. Verbal attack was most frequently reported (83.5%). Patients and relatives were the most cited perpetrators of violence. Nurses and doctors constituted 75% of health workers who were exposed to violence. Sociodemographic characteristics such as age group, sex, and experience at work were significant risks for violence. Study revealed the majority of respondents who experienced violence had elevated scores on the subjective aggression scale.

Conclusion: Seventy percent of respondents experienced work-related violence; 62.4% of the perpetrators were patients and relatives. The reasons for violence included health workers long waiting time and health workers' elevated scores on the subjective aggression scale. Training and educating health workers on identifying early signs of aggression and also anger management would help in reducing violence at the workplace.

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Introduction

Workplace violence (WPV), identified as an issue of major public health, is violent acts directed toward persons at work or duty, and such acts may include physical assault and threats of assaults [1,2]. Workplace violence, in the healthcare sector, may manifest in psychological, physical, emotional, financial, and social consequences which may be related to work functioning [3,4]. Not only healthcare workers in high-risk psychiatric unit or emergency service unit are prone to workplace violence, other categories of health workers are also at risk of violence albeit at different degrees [5–9]. Aggression directed toward healthcare workers by patients, or their relatives, is a serious and frequent problem that is on the increase globally [10,11]. Literature and studies from various countries showed that the percentage of health workers suffering WPV was as

high as 50% to 88% [12–16]. Contemporary Nigerian studies had also endeavored to focus on the issue of violence against healthcare professionals and reported prevalence range of 32%–70% in settings similar to this study [6,9,17,18]. Despite its enormous consequences, such as illness, disability, or even death, WPV has been regarded by some health workers simply as “part of the job” phenomenon [19]. More often than not, many acts of violence in healthcare facilities do go unreported for the common reason and such acts are considered as “normal” by the healthcare workers. Indeed, little is known concerning the factors in the victims of violence among health workers that may make them prone to violence. Some studies, however, identified poor communication and inappropriate or irritating healthcare staff attitudes as reasons that may evoke demonstration of violent behavior [20–22]. A

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Congolese study has adduced the aggressive behavior of patients and their relatives toward Congolese healthcare workers to the misconduct of health workers themselves [23]. This is yet to be explored in Nigerian research on WPV among healthcare professionals. Irritating attitude and/or misconduct behavior may be a manifestation of traits of aggression, particularly verbal aggression and/or hostility on the part of healthcare workers. According to Buss [24], verbal aggression is defined as delivering noxious stimuli to another organism through vocal response, such as rejection and threat. Hostility is negative implicit interpretation and evaluation of events and people. This study aimed at a descriptive analysis of the incidents of violence experienced by healthcare workers. However, this differs from similar studies done on violence against health workers for the fact that it endeavored to screen for aggressive tendency, among participants in the study, which may be a possible causal factor for violence encountered by healthcare workers in a tertiary healthcare facility in a southwestern state of Nigeria.

Materials and Method

A descriptive cross-sectional study design was adopted in this study. The study sample was derived from a population of healthcare workers from the authors' healthcare facility. The study duration was 4 weeks. The study was done in a budding tertiary healthcare facility in southwest Nigeria. The list of health workers in each of the units that are directly involved in the care of, and in contact with, patients was obtained. A proportionate stratified random sample was obtained from the study population of healthcare workers including physicians, nurses, pharmacists, and laboratory technologists. The cooperation of units' heads was sought on the need to ensure that respondents from their respective units do not exchange ideas while filling the questionnaire to minimize biases. The following categories of health workers were excluded from the study frame: health workers whose age were above 60 years for all categories of the workers, and above 70 years for doctors because doctors in academics have statutory retirement age of 70 years (there were only four elderly excluded in this category because they were involved only in administrative work in this hospital); health workers engaged in children's emergency ward units; health workers from community medicine (their work is mostly outside the hospital), and health workers who had not spent up to 12 months in employment of the hospital.

Data collection

In this study, work-related attack or violence is defined as intentional use of physical, emotional, or verbal abuse against an employee and results in physical or emotional injury and consequences. The questionnaire used in this study consists of three sections. The first section gathered information on socio-demographic data of the participants. The second section of the questionnaire explores the exposure and frequency of exposure of participants to physical and verbal violence in the past 12 months, the characteristics of the attacker and the profile, including consequences, of the attack(s), the incident of reporting and training programs. The third section of the questionnaire is an extract of the Buss-Perry Aggression Questionnaire (BPAQ) [25]. The BPAQ, aimed at measuring the components of aggression in individual healthcare worker, has been found to be a reliable and valid measure of an individual's risk of displaying aggressive and hostile behaviors. The BPAQ consists of 29 items where items 1–9 measure Physical Aggression (PA), items 10–14 Verbal Aggression (VA), items 15–21 Anger (A), and items 22–29 Hostility (H). Each question on the Buss-Perry Questionnaire employs a five-point rating scale, where 1 = extremely uncharacteristic of me, 2 = somewhat uncharacteristic of me, 3 = neither uncharacteristic nor characteristic of me, 4 = somewhat characteristic of me, and 5 = extremely characteristic of me. Individual Subscale scores were derived by summing the ratings for the questions that define each of the subscales. This study used the scores of the respondents on (VA) and (H) subscales of the BPAQ. Earlier study found a 12-item version model that included both verbal aggression and hostility subscales having acceptable reliability [26]. Aggression Score [AS] was also derived by summing each individual's ratings across the two subscales: $AS = (VA) + (H)$. The average scores from the original Buss and Perry paper for men and women are as follows: Verbal aggression, Range = 5–25; Men = 15.2; Women = 13.5. Hostility, Range = 8–40; Men = 21.3; Women = 20.2 [25]. The subscales differ in range because they have different numbers of questions. The average score, from this study, was used to derive cut-off values that classified the respondents in this study into two categories. "Normal" scores are scores below the average scores; and "Elevated" scores are scores above the average scores for the respective groups. The questionnaire was self-report and accompanied by a covering letter that describes the

purpose of the study, instructions for the participants, and information about informed consent.

Ethical consideration

Ethical approval for the study was obtained from the hospital's ethics committee. Participation in the study was voluntary and we ensured anonymity. Informed consent was also obtained from the participants.

Data analysis

The data collected were analyzed using the Statistical Package for Social Sciences program version 19.0. Descriptive statistics were used to describe the sample and the level of significance set for bivariate analysis at $p < 0.05$. Results were presented in the form of frequency tables and Pearson Chi-square test for qualitative variables.

Results

Only 127 of a total of 200 questionnaires returned were adequately completed by health workers in various units directly involved in the care of patients in the hospitals. Many questionnaires were not returned as a result of a considerable number of potential respondents who unexpectedly and inevitably exited from the service of the hospital in the course of this study. The sociodemographic characteristics of the respondents are shown in Table 1. The respondents' ages ranged from 20 to 68 years with a mean age of 37.82 years and a Standard Deviation (SD) of ± 10.100 . About a quarter (23.5%) of the respondents had been working in the facility for more than 15 years. Eighty-five (67%) of the 127 respondents who completed their questionnaires had experienced violence within the last 12 months. Table 2 shows the gender disaggregation of the variables for the 85 respondents who experienced violence at their workplace. Fifty-two (60%) of respondents who experienced violence were females. More than half (56.5%) of the 85 respondents who had a positive history of attacks were nurses, while only about a third were doctors.

The descriptions of the attacks as experienced by the respondents are shown in Table 3. The most frequently experienced form of attack was verbal (83.5%) and the patients' relatives were the most frequently (62.4%) reported perpetrators of attacks experienced in this study. Only one of the respondents admitted he could have provoked the attacks on him, in response to the question: *In your own opinion, who provoked the attack?* However, the majority

Table 1: Sociodemographic characteristics of respondents.

Characteristics	N = 127	Percent (%)
Gender		
Male	60	47.20
Female	67	52.80
Profession		
Doctors	53	41.70
Nurses	53	41.70
Lab scientists	6	4.70
Others	15	11.80
Marital status		
Single	29	22.80
Married	96	75.60
Separated	2	1.60
Designation		
Senior	36	28.30
Intermediate	47	37.00
Junior	44	34.70
Work unit		
Emergency	19	15.00
Ward	45	35.40
Outpatient	22	17.30
Laboratory	8	6.30
Psychiatry	9	7.10
Others	24	18.90
Experience in years		
1–5 years	38	29.90
5–10 years	42	33.90
11–15 years	16	12.60
16–20 years	14	11.00
Above 20 years	16	12.60
Work shift		
Yes	60	47.20
No	67	52.80

(81.2%) of the respondents attacked believed the attack could have been prevented. Two-third of the respondents either walked away from, or avoided, their attackers. Majority (90%) of those who were attacked were with co-workers at the time of attack. Less than 20% of the respondents had attended workshop or program on anger management and more than half (53%), including those who had not experienced violence, would subscribe to attending a workshop on anger management. Relationship between sociodemographic characteristics of the respondents and their exposure to attacks is shown in Table 4. Younger health workers in the age range 20–40 were significantly more likely to be victims of attack when compared to the older colleagues ($p = 0.015$). The occurrence of females being victims of attack was significantly higher than males ($p = 0.014$). Significantly, nurses, and more so females, were the most exposed to attacks among other professionals ($p = 0.001$). Less experienced respondents with work experience not more than 10 years were more prone to attacks

Table 2: Gender disaggregation of respondents who experienced attacks.

Category	N = 85	
	Male (%) (n = 33)	Female (%) (n = 52)
Profession		
Doctors	25 (75.8)	6 (11.5)
Nurses	4 (12.1)	41 (78.8)
Lab scientist	2 (6.1)	-
Others	2 (6.1)	5 (9.6)
Marital status		
Single	9 (27.3)	13 (25.0)
Married	24 (72.7)	38 (73.1)
Separated	-	1 (1.9)
Designation		
Senior	10 (30.3)	9 (17.3)
Intermediate	16 (48.5)	19 (36.5)
Junior	7 (21.2)	24 (46.2)
Work unit		
Emergency	6 (18.2)	6 (11.5)
Ward	6 (18.2)	30 (57.7)
Outpatient	5 (15.2)	6 (11.5)
Lab	4 (12.1)	6 (11.5)
Psych	9 (27.3)	4 (7.7)
Others	3 (9.1)	-
Experience (yrs)		
1–5	8 (29.2)	20 (38.5)
6–10	13 (39.4)	20 (38.5)
11–15	5 (15.2)	6 (11.5)
16–20	3 (9.1)	3 (5.8)
Above 20	4 (12.1)	3 (5.8)
Work shift		
Yes	7 (21.2)	40 (76.9)
No	25 (75.8)	12 (23.1)
Age range (years)		
20–30	9 (23.7)	18 (34.6)
31–40	11 (33.3)	24 (46.2)
41–50	12 (36.4)	6 (11.5)
51–60	1 (3.0)	4 (7.7)
61–70	-	-
Aggression category		
Normal	20 (60.6)	29 (55.8)
Elevated	2 (6.1)	-
Pronounced	11 (33.3)	23 (44.2)

($p = 0.043$). Healthcare workers on shift duty were significantly more likely to be attacked compared with those who were not running shift. Violent attacks occurred more frequently on the wards, including psychiatric ward. Fifty (58.8%) of the health workers who were attacked did not report the attack to the hospital management. The nurses (30.8%) were the group who reported most, while none of the laboratory scientists who participated in the study reported the attack against them. Eighty-three (65.4%) of the 127 respondents had never attended any workshop or training on anger management.

Table 3: Description of the attack as experienced by the respondents.

Descriptive	N = 85 n (%)
Type	
Verbal	71 (83.5)
Physical	11 (13.0)
Both	3 (3.5)
Culprit	
Patient	23 (27.1)
Patient's relative	53 (62.4)
Patient+relative(s)	6 (7.0)
Co-worker	3 (3.5)
Who provoked	
Respondent	1 (1.1)
Co-worker	25 (29.4)
Patient	53 (62.4)
Patient's relatives	6 (7.1)
Warning signs	
Yes	33 (38.8)
No	52 (61.2)
What prompted attack	
Delay in service	20 (23.5)
Concerned relative	19 (22.4)
Loss of patient	15 (17.6)
Non availability of personnel	5 (5.9)
Insults	8 (9.4)
Personality of the attacker	10 (11.8)
Attacker's illness	2 (2.4)
Poor facility	6 (7.0)
Attack preventable	
Yes	69 (81.2)
No	11 (12.9)
Undecided	5 (5.9)

The overall mean score for the sum Verbal aggression and Hostility subscales of BPAQ was 29.8 and a standard deviation SD of ± 9.96 . Females respondents had higher aggression mean score (30.1, SD ± 10.63) than males (29.5, SD ± 9.21). Nurses had the highest mean score among all other categories of health workers. Respondents who were attacked had a higher mean score than those who reported no attack on VA subscale, and females have a higher mean score than males on Hostility (H) subscale of BPAQ. The respondents' aggression score and its association with their characteristics for the sum of verbal aggression and hostility subscales [VA] + [H] of BPAQ are shown in Table 5.

Discussion

Similar to other studies, including a Nigerian study, the prevalence of violence found in this study was 66% at the workplace among various categories of health workers in our tertiary health institution in southwest Nigeria [12–17]. Another Nigerian study,

Table 4: Relationship between exposure to violence and respondents' sociodemographic characteristics.

Parameters	Attacked (n = 85)	Not attacked (n = 42)	Statistics
Age range (years)			
20–30	27 (31.76%)	8 (19.05%)	$\chi^2 = 12.745$, df = 4, $p = 0.014$
31–40	35 (41.18%)	12 (28.57%)	
41–50	18 (21.18%)	12 (28.57%)	
51–60	5 (5.88%)	8 (19.05%)	
61–70	0 (0.0%)	2 (4.76%)	
Gender			
Male	33 (38.82%)	27 (64.29%)	$\chi^2 = 6.020$, df = 1, $p = 0.014$
Female	52 (61.18%)	15 (35.71%)	
Marital status			
Single	22 (25.88%)	7 (16.67%)	$\chi^2 = 1.583$, df = 2, $p = 0.453$
Married	62 (72.94%)	34 (80.95%)	
Separated	1 (1.18%)	1 (2.38%)	
Occupation			
Doctors	31 (36.47%)	22 (52.38%)	$\chi^2 = 15.925$, df = 3, $p = 0.001$
Nurses	45 (52.94%)	8 (19.05%)	
Lab. scientist	2 (2.35%)	4 (9.52%)	
Others	7 (8.24%)	8 (19.05%)	
Experience (years)			
1–5 years	28 (32.94%)	10 (23.81%)	$\chi^2 = 9.839$, df = 4, $p = 0.043$
5–10 years	33 (38.82%)	10 (23.81%)	
11–15 years	11 (12.94%)	5 (11.90%)	
16–20 years	6 (7.06%)	8 (19.05%)	
> 20 years	7 (8.24%)	9 (21.43%)	
Work unit			
Emergency	12 (14.12%)	7 (16.67%)	$\chi^2 = 8.171$, df = 5, $p = 0.147$
Ward	36 (42.35%)	9 (21.43%)	
Outpatient	11 (12.94%)	11 (26.19%)	
Lab	4 (4.71%)	4 (9.52%)	
Psych	7 (8.24%)	2 (4.76%)	
Others	15 (17.65%)	9 (21.43%)	
Shift			
Yes	48 (56.5%)	13 (30.95%)	$\chi^2 = 7.966$, df = 1, $p = 0.019$
No	37 (43.5)	29 (69.05%)	

however, reported a lower prevalence of 31.9% among dental professionals [9]. Verbal violence was the most reported, and most cited perpetrators of violence were the patients and patient's relatives. Finding by this study is consistent with several studies that found the aggressors to be patients, their relatives, or both, who are the ones often involved emotionally [6,9,17,18,27,28]. This study, in consonant with some other previous studies, also found sociodemographic characteristics such as age, gender, occupation, and years of experience at work to be statistically significant in workplace violence against healthcare workers [29,30]. However, some demographic characteristics found significant were in contrast to findings in some previous stud-

ies [6,28]. The younger workers particularly, and significantly, among female nurses were the most attacked. Inexperience and being "weaker sex" may perhaps explain this trend. The nurses and doctors belong to the groups that spend most hours at work with patients and their relatives. This makes them more prone to attacks when patient and or relatives are disgruntled about any issue regarding patients' care. In spite of the same roles and exposure expected of both male and female nurses, this study found female nurses were more at risk than their male counterparts at risk. This gender difference, given the same environment, may be due to biological and psychological vulnerability.¹

¹Biological vulnerability implies genetic tendency of an individual.
Psychological vulnerability implies early learning by an individual.

Table 5: Respondents' aggression score/Category.

Respondents' characteristics	Aggression mean value $\pm$ SD	Aggression category (relative to overall mean value of 29.8)
Age group (years)		
20–30	34.1 $\pm$ 9.7	E
31–40	27.1 $\pm$ 9.4	N
41–50	28.2 $\pm$ 9.9	N
51–60	31.5 $\pm$ 10.1	E
61–70	31.5 $\pm$ 4.9	E
Gender		
Male	29.5 $\pm$ 9.2	N
Female	30.5 $\pm$ 10.6	E
Experience (years)		
<5	33.2 $\pm$ 10.6	E
5–10	28.4 $\pm$ 9.6	N
11–15	26.2 $\pm$ 9.6	N
16–20	26.8 $\pm$ 9.6	N
>20	32.1 $\pm$ 9.2	E
Occupation		
Doctors	28.0 $\pm$ 8.5	N
Nurses	31.8 $\pm$ 10.6	E
Lab. scientist	28.0 $\pm$ 11.1	N
Others	29.9 $\pm$ 11.6	E
Attacked		
Yes	30.5 $\pm$ 10.0	E
No	28.5 $\pm$ 9.8	N
Work unit		
Emergency	29.0 $\pm$ 9.0	N
Wards	31.0 $\pm$ 11.1	E
Outpatient	30.0 $\pm$ 9.0	E
Laboratory	27.5 $\pm$ 9.6	N
Psychiatry	23.7 $\pm$ 9.7	N
Others	29.5 $\pm$ 8.2	N
Training attended		
Yes	30.3 $\pm$ 11.2	E
No	29.6 $\pm$ 9.8	N

N = Normal aggression score, E = Elevated aggression score.

There seemed to be no warning signs in about 62.4% of violence experienced. It was possible, however, that victims of the violent acts could not discern such foresigns of attack due to inexperience, as the majority of those who reported warning signs were the respondents with longer working experience. High rates of violence were reported in this study on the wards (medical/surgical) and psychiatric ward: 36 out of 45, 80% respondents on the wards, and 7 out of 9, 78% respondents from psychiatric unit experienced violence (Table 3). Psychiatric and emergency units are often reported to have high rates of violence by previous studies [6,17]. This study also found high rates of violence among health workers similar to earlier studies that reported high rates for medical and surgical wards [31,32]. Our study revealed three top rea-

sons that resulted in attacks or violence that might be attributed to healthcare workers not attending timely, concerned relatives, and loss of patients. Earlier Nigerian studies by Azodo et al and Ogundipe et al found similar reasons (long waiting time and frustration of relatives) for perpetrated violence against healthcare professionals. These are obvious situations that would evoke emotions that might result in aggression towards healthcare workers who were perceived to be responsible for the attackers' displeasure. Many other previous studies only postulated reasons for workplace violence against healthcare workers. This study made real attempt to investigate the perceived reason for violence perpetrated against healthcare workers by gauging the aggression among the healthcare workers, themselves. However, the observed violence may also be as a result of the current state of health services in Nigeria which may be adduced to poor and untimely payment of remunerations. The difficult general living condition may also be a valid causal factor of violence in this study environment. The fact that workers were often not alone at their duty posts could be responsible for the timely curtailment of the experienced acts of violence as observed by this study. The most frequent form of violence in this study being verbal would seldom lead to physical injury as indicated by respondents. The recurrent themes of the respondents' descriptions of their feelings included emotional disturbances and shame. The isolated incidence of life-threatening outcome of experienced violence in this study was as a result of physical attack on the individual healthcare worker. Some of the frequent reasons given by respondent for their non-reporting of incidence of violence towards them such as "it's not unusual"; it's one of those things" were in furtherance of the "part of the job" phenomenon as perceived by health workers in their workplace. The poor reporting level in this study was similar to many other previous studies [33–40]. This study, even though was cross-sectional, attempted to appraise the prevalence of violence against healthcare workers and possible causal factors that may be inherent in the victims of workplace violence among healthcare workers. This study has shown that the nurses who were reported to be the most attacked group incidentally had the highest mean score of 31.8 on adopted aggression subscales compared to other professional groups in the study. In fact, the nurses' mean score was even higher than the overall mean score for all the respondents in the study. It is worthy of note that the mean

aggression score of 30.5 for the respondents who were attacked was relatively higher than the mean score of 28.5 for respondents who reported no attacks. Also, the mean aggression score for those attacked was found to be higher than the overall mean score of 29.8 recorded on verbal aggression and hostility subscales. The care of the ill and their relatives are perceived to be the responsibility of the "noble" healthcare workers. The perceived elevated level of aggression, as measured among the respondents in this study, revealed the reality that trait aggression and trait irritability may influence aggressive behavior under both neutral and provocative conditions. Our finding has brought to the fore the apparent innate aggression, or induced aggression of the healthcare workers. Stress of work and changing in life conditions could increase the possibility of aggressive behaviors. Further, this may suggest that the aggressive tendency in healthcare workers could predispose, precipitate, and or perpetual acts of violence, by the perpetrators, towards the healthcare workers. Respect is reciprocal, violence may beget violence.

Limitations and Strength

This study is greatly hampered by the low population of participants as indicated by a low response rate. This may be adduced to inevitable and untimely disengagement of a very significant proportion of the targeted population (who had been served questionnaires). Thus, the findings may not be generalized. The method of gathering data which was self-report might enhance social desirability responding, albeit efforts by researchers who offered required comments when questionnaires were delivered to the respondents. The responses of participants were in retrospect and were prone to reporting and recall bias due to a 12-month self-assessment by the respondents. However, this study has its strength in the additional endeavor in probing for and identifying aggression among the respondents in this study. Aggression in healthcare worker may be a possible causal factor for the violence encountered in the sector.

Conclusion

This study has come to show that we must look deeper into the attacks at workplaces. It is pertinent that we possibly look at the contributory factors that may stem from the victims of the attacks. Health workers who had elevated scores on the aggression scale were more prone to attacks. Training and edu-

cating health workers on identifying early signs of aggression and also anger management will go a long way in reducing violence at the workplace. It surfeits to say that further research into issues of aggression and other associated factors in the workplace, particularly among the healthcare workers, may be relevant with a view to providing safe therapeutic environments in clinical practice.

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Conflict of interest

Nil.

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