

Workplace bullying among healthcare workers: Reporting, organisational resolution, and associations with mental health and work productivity

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Abstract

Background

Workplace bullying is common in healthcare and is associated with adverse psychological and occupational consequences. However, less is known about reporting, organisational resolution, and their relationship with mental health and work productivity. This study examined these pathways across a broad healthcare workforce.

Methods

A cross-sectional study was conducted among 516 healthcare workers in a Nigerian teaching hospital, including clinical, technical, administrative, and ancillary personnel. Workplace bullying was assessed using the Negative Acts Questionnaire-Revised, mental health using the Depression Anxiety Stress Scales, and work productivity using the Healthcare Productivity Survey. Chi-square tests, independent-samples *t*-tests, multivariable logistic regression, and one-way analysis of variance were used.

Results

Among 516 healthcare workers, 267 (51.7%) met the criterion for workplace bullying. Depression, anxiety, and stress symptoms were present in 51.6%, 58.7%, and 31.0%, respectively. Among those experiencing bullying, 197 (73.8%) did not report it. Of the 70 who reported, 21 (30.0%) reported no action, 23 (32.9%) were dissatisfied with the action taken, and 26 (37.1%) were satisfied with the organisational response. Male workers and supervisors were more likely to report bullying, while clinical workers and those with longer employment duration were less likely to report. Reporting was also more likely when bullying was perpetrated by colleagues than superiors. Reporting was more common when bullying involved physically intimidating behaviours than work-related and person-related bullying. Among reporters, satisfactory resolution was more common among workers with a supervisory role and those bullied by superiors and was associated with higher education, longer employment duration, and greater supervisor and colleague support. Depression scores were highest among those bullied by patients/relatives ($p < .001$). Productivity scores differed by bullying source ($p = .029$) and reporting/resolution status ($p = .026$), with higher scores among those bullied by patients/relatives and those whose reports were satisfactorily resolved.

Conclusions

Workplace bullying was common, with substantial underreporting and limited satisfactory resolution. Bullying source was associated with reporting, resolution, depression, and productivity, while satisfactory resolution was associated with higher productivity. These findings highlight the importance of

accessible, trusted, and responsive organisational mechanisms for managing workplace bullying. Causal relationships cannot be inferred from this cross-sectional study.

Introduction

Workplace bullying is an important occupational and organisational health problem in healthcare. Healthcare workers operate within complex organisational environments characterised by professional hierarchies, high work demands and unequal power relationships, creating conditions in which negative workplace behaviours may occur and become normalised [1]. Recent evidence identifies workplace culture, organisational hierarchy, institutional power and conflict as important factors in healthcare bullying and emphasises the importance of organisational policies, leadership and management in its prevention and management [2].

The consequences of workplace bullying extend beyond the immediate interpersonal experience. Bullying has been associated with adverse psychological outcomes, including stress, anxiety, depression and burnout, as well as poorer occupational wellbeing and work functioning [1, 3, 4]. A systematic review and meta-analysis among nurses found a significant association between workplace bullying and job stress, while broader healthcare evidence continues to link bullying with psychological and occupational consequences [2, 5]. Evidence from African healthcare settings also indicates substantial exposure to workplace violence and bullying, although estimates vary across settings and occupational groups [6]. Much of this research has focused on specific professional groups, particularly nurses, with less attention to the broader healthcare workforce comprising both clinical and non-clinical personnel.

An important but less examined aspect of workplace bullying concerns what happens after an incident occurs. Reporting provides an opportunity for organisations to identify bullying, intervene and protect affected workers, yet underreporting remains widespread. A 2025 mixed-methods systematic review of 58 studies from 30 countries identified organisational, social and personal factors influencing reporting among healthcare workers, including organisational support, leadership and reporting procedures [7]. A 2026 scoping review similarly identified ineffective reporting systems, fear of consequences, inadequate knowledge of procedures and insufficient organisational support as important barriers to reporting [8].

Importantly, reporting an incident and obtaining a satisfactory organisational response are not equivalent outcomes. A worker may report bullying without any action being taken, may receive an organisational response that is considered inadequate, or may receive a response regarded as satisfactory. Recent literature has begun to recognise reporting, investigation, organisational response and evaluation as distinct stages in the management of workplace bullying [2]. However, these stages have often been examined separately, and evidence examining their interrelationships within the same healthcare workforce remains limited. Distinguishing between workers who do not report bullying, those who report but remain dissatisfied with the organisational response, and those who report and consider the response satisfactory may therefore provide a more informative understanding of the organisational pathway following bullying.

The source of bullying may also shape this pathway. Healthcare workers may experience bullying from supervisors, colleagues, patients or relatives, with these sources occupying different positions within professional and organisational hierarchies. Such differences may influence workers' willingness to report incidents, their experiences of organisational response, and potentially their psychological and occupational outcomes. Bullying by a supervisor, colleague, or patient/relative may involve different power relationships, dependencies and perceived consequences of reporting. Organisational position may similarly be relevant, as clinical and non-clinical workers and those with different levels of managerial responsibility may have different workplace experiences and access to organisational resources and reporting mechanisms [2]. However, the extent to which the source of bullying is associated with reporting, organisational resolution and worker outcomes remains insufficiently characterised within healthcare workforces.

Despite the growing literature, the relationship between bullying exposure, its source, reporting, organisational response and subsequent worker outcomes remains less well characterised when these components are examined within the same healthcare workforce. Existing research has extensively examined bullying prevalence and consequences, barriers to reporting, and organisational responses. However, fewer studies have considered the pathway following bullying by distinguishing workers who do not report bullying from those who report but remain unresolved and those who report and experience a satisfactory organisational response, while also considering the source of bullying and its relationship with mental health and work productivity. Examining these components together may provide a more comprehensive understanding of the organisational pathway following workplace bullying.

The present study therefore examines workplace bullying among healthcare workers, including clinical and non-clinical personnel, with particular attention to the pathway following exposure. Specifically, it examines factors associated with reporting; factors associated with satisfactory versus unresolved outcomes among those who report; whether the source and domains of bullying are associated with reporting and organisational resolution; and whether bullying source and reporting/resolution status are associated with mental health and work productivity.

The study is informed primarily by the Job Demands–Resources (JD-R) model, which conceptualises workplace bullying as an adverse psychosocial job demand that may undermine psychological wellbeing and work functioning [9, 10]. The reporting and resolution component is also considered from an Organisational Justice perspective, which provides a theoretical lens for understanding how workers may experience organisational procedures and outcomes following a workplace complaint [11]. Importantly, organisational justice is used as a theoretical lens in the present study rather than as a directly measured construct. Accordingly, this study moves beyond examining workplace bullying solely as an adverse workplace exposure to examine what happens after bullying occurs: whether workers report it, whether reported incidents are satisfactorily resolved, whether the source and nature of bullying are associated with this pathway, and how different reporting and resolution experiences are associated with mental health and work productivity.

Methods

Study design and setting

This study employed a cross-sectional analytical design to investigate workplace bullying among healthcare workers, with particular emphasis on bullying reporting, organisational resolution, mental health and work productivity. The study was conducted at Osun State University Teaching Hospital, Osogbo, Nigeria, from June 2022 to November 2024. The hospital is a 500-bed tertiary healthcare facility comprising more than 13 clinical and administrative departments and units, with responsibilities for teaching, research and healthcare service delivery to approximately 5 million people in Osun State and surrounding areas. The study included both clinical and non-clinical healthcare personnel, enabling examination of workplace bullying across different occupational and organisational roles within the healthcare workforce.

Participants and sampling

The study population comprised health workers employed at Osun State University Teaching Hospital, Osogbo, Nigeria. For this study, healthcare workers were defined broadly as individuals working in the healthcare setting, including healthcare professionals, technical staff, administrative staff, and other ancillary personnel. Participants represented a range of occupational groups, including medical/surgical/dental staff, nursing, medical laboratory science, pharmacy, physiotherapy and medical rehabilitation, medical social work and dietetics, health information management, technicians and attendants, engineering and maintenance, administration, finance and accounting, and catering. This broad definition enabled the study to capture experiences of workplace bullying across both clinical and non-clinical occupational roles.

Health workers who had been employed for at least one year were eligible to participate. Workers who were on leave at the time of data collection, those with a chronic illness, and those with a documented history of mental illness were excluded. A stratified sampling technique was used. Participants were recruited from the different departments, units, and sections of the hospital, with the number invited from each department or unit determined proportionately according to its staff strength and gender distribution. A minimum of 20% of the staff strength of each department, unit, or section was invited to participate. This approach was intended to ensure representation across the different occupational and organisational areas of the hospital. Ethical approval for the study was obtained from the Research Ethics Committee of Osun State University Teaching Hospital, Osogbo, Nigeria (Approval No. UTH/EC/2022/05/592). Participation was voluntary, and participants provided informed consent before taking part in the study.

Sample size determination

The minimum sample size for the study was determined using the formula for estimating a single population proportion described by Daniel [12]: $n = Z^2 P(1 - P) / d^2$, where n represents the minimum required sample size, Z is the standard normal deviate at a 95% confidence level (1.96), P is the estimated prevalence of workplace bullying from a previous similar study (88.1%) [13], and d is the tolerated margin of error (5%). Using these values: $n = (1.96)^2 \times 0.881 \times (1 - 0.881) / (0.05)^2 = \text{approx.} 162$. Thus, the minimum required sample size was 162 participants. To increase the statistical power of the study, this number was doubled, resulting in a target sample size of 324 participants. Ultimately, 516 healthcare workers were included in the study, exceeding both the minimum calculated sample size and the planned target.

Measures

Assessment of workplace bullying

Workplace bullying was assessed using the Negative Acts Questionnaire–Revised (NAQ-R) developed by Einarsen et al. [14]. The NAQ-R is a 22-item instrument designed to assess exposure to negative workplace behaviours during the preceding six months. It comprises three domains: work-related bullying, person-related bullying, and physically intimidating bullying. Each item is rated on a five-point frequency scale ranging from 1 (never) to 5 (daily), with higher scores indicating more frequent exposure to negative workplace behaviours [14]. The NAQ-R has demonstrated good psychometric properties, with the original validation study reporting high internal consistency (Cronbach's $\alpha = 0.90$) and supporting its three-domain structure [14]. Evidence from Nigeria also supports the use of the NAQ-R in a Nigerian context. A study conducted in Enugu, Nigeria, reported good internal consistency (Cronbach's $\alpha = 0.91$) and used the 33-point cut-off to classify bullying exposure [15]. In the present study, the NAQ-R demonstrated good internal consistency, with a Cronbach's α of 0.85. Scores were calculated separately for the three NAQ-R domains and as an overall total NAQ-R score. The domain scores were retained as continuous measures to characterise the different dimensions of negative workplace behaviours, while the total NAQ-R score was used to determine overall bullying status. Consistent with the classification proposed by Notelaers and Einarsen [16], participants with a total NAQ-R score of 33 or higher were classified as having bullying exposure, whereas those with scores below 33 were classified as having no bullying exposure. Participants identified as having experienced workplace bullying were subsequently asked additional questions concerning the bullying experience and its management. These included the source of the bullying, whether a formal complaint had been made, whether action was taken following the complaint, and whether the participant was satisfied with the action taken. The source of bullying was categorised as superior, colleague, or patient/relative.

Mental health assessment

Mental health was assessed using the Depression Anxiety Stress Scales–21 (DASS-21) developed by Lovibond and Lovibond [17]. The DASS-21 is a 21-item self-report instrument comprising three seven-item subscales measuring depression, anxiety and stress. Participants rate each item according to how

much it applied to them during the preceding week, using a four-point response scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). Each subscale is scored by summing its seven corresponding items, with higher scores indicating greater severity of symptoms. The resulting subscale scores were multiplied by two to enable interpretation using the severity-rating thresholds established for the original 42-item DASS. For descriptive categorisation, the doubled subscale scores were classified according to the standard DASS severity thresholds. For depression, scores of 0–9 were classified as normal, 10–13 as mild, 14–20 as moderate, 21–27 as severe, and ≥ 28 as extremely severe. For anxiety, scores of 0–7 were classified as normal, 8–9 as mild, 10–14 as moderate, 15–19 as severe, and ≥ 20 as extremely severe. For stress, scores of 0–14 were classified as normal, 15–18 as mild, 19–25 as moderate, 26–33 as severe, and ≥ 34 as extremely severe [17].

The DASS-21 has demonstrated good psychometric properties in Nigerian populations. In a Nigerian study of medical students, Coker et al. [18] reported Cronbach's α values of 0.81 for depression, 0.89 for anxiety and 0.78 for stress, together with evidence of concurrent, convergent and discriminant validity. More recently, a Yorùbá-language validation study among Nigerian participants supported the reliability and three-factor structure of the instrument [19]. In the present study, the DASS-21 demonstrated good internal consistency, with Cronbach's α values of 0.89 for depression, 0.91 for anxiety and 0.86 for stress.

Work productivity assessment

Work productivity was assessed using the 29-item Healthcare Productivity Survey (HPS) developed by Gillespie et al. [20]. The HPS was specifically developed to assess perceived changes in the work productivity of healthcare workers following stressful workplace events. It comprises four domains: cognitive demands, handling/managing workload, support and communication with patients and visitors, and providing safe and competent care [20]. The HPS has demonstrated good psychometric properties among healthcare workers, with evidence of construct validity and strong internal consistency across its domains [20]. Each HPS item is rated on a five-point scale ranging from – 2 (decreased productivity) to + 2 (increased productivity). The item scores are summed to obtain an overall productivity score, with negative scores indicating decreased perceived productivity, zero indicating no change, and positive scores indicating increased perceived productivity. In the present study, the HPS demonstrated excellent internal consistency, with a Cronbach's α of 0.90.

Covariates

Information on participants' demographic, occupational and workplace characteristics was collected using a structured questionnaire. The covariates included age, recorded in years; gender, categorised as male or female; marital status, categorised as single or married, with the single category comprising participants who were unmarried, widowed, separated or divorced; educational level, recorded in years of formal education; job type, categorised as clinical or non-clinical; employment years, representing the

number of years the participant had been employed; and supervisory role, categorised as having or not having a supervisory role. Workplace social support was also assessed using two items addressing perceived support from colleagues and supervisors: *"I get help and support from my colleagues"* and *"I get help and support from my supervisor."* Each item was rated on a four-point response scale ranging from 1 (strongly disagree) to 4 (strongly agree), with higher scores indicating greater perceived workplace social support. The colleague-support and supervisor-support items were retained as separate measures.

Statistical analysis

Data were analysed using IBM SPSS Statistics, version 23.0. Descriptive statistics were used to summarise participant characteristics and workplace bullying experiences. Categorical variables were presented as frequencies and percentages, while continuous variables were summarised using means and standard deviations. The analysis of reporting and organisational resolution was conducted sequentially among participants who met the predefined criterion for workplace bullying. First, factors associated with reporting were examined among workers who experienced bullying, comparing those who did not report the bullying with those who reported it. Associations between categorical variables were assessed using Pearson's chi-square test, while independent-samples *t*-tests were used for continuous variables. Where the assumption of equal variances was not met, the unequal-variance result was used. Variables with a bivariate *p*-value $\leq .20$ were considered for multivariable analysis. Binary logistic regression using the Enter method was then performed, with reporting status as the dependent variable. Adjusted odds ratios (aORs) with 95% confidence intervals (CIs) were reported, and statistical significance was assessed at $p < .05$. For the categorical source-of-bullying variable, superiors were used as the reference category.

Second, among the participants who reported bullying, factors associated with satisfactory organisational resolution were examined by comparing those whose reports remained unresolved with those who reported being satisfied with the organisational response. Pearson's chi-square tests were used for categorical variables and independent-samples *t*-tests for continuous variables. Given the relatively small number of participants in this subgroup, the resolution analysis was restricted to bivariate comparisons and no multivariable regression model was undertaken. The relationship between source of bullying and mental-health and productivity outcomes was examined using one-way analysis of variance (ANOVA). The source of bullying was categorised as superior, colleague, or patient/relative. Where the overall ANOVA was statistically significant, Tukey's honestly significant difference test was used for pairwise comparisons. Homogeneity of variance was assessed using Levene's test. Mental-health and productivity outcomes were also compared across the three-stage reporting/resolution pathway among the workers who experienced bullying: (1) bullying not reported, (2) bullying reported but unresolved, and (3) bullying reported and satisfactorily resolved. One-way ANOVA was used to compare depression, anxiety, stress, and productivity scores across these groups. Homogeneity of variance was assessed using Levene's test, and Tukey's HSD test was used for post-hoc pairwise comparisons where

the overall ANOVA was significant. All statistical tests were two-sided, with statistical significance set at $p < .05$.

Results

Participant characteristics and key study findings

A total of 516 healthcare workers participated in the study, with a mean age of 40.4 ± 11.1 years. The sample comprised 261 (50.6%) males and 255 (49.4%) females, with 400 (77.5%) married and 116 (22.5%) single (Table 1). Participants had a mean educational attainment of 17.3 ± 4.8 years and a mean employment duration of 10.8 ± 7.5 years. Clinical workers constituted 55.4% ($n = 286$) of the sample, while non-clinical workers accounted for 44.6% ($n = 230$). Half of the participants (50.0%, $n = 258$) reported having a supervisory role. The mean total NAQ-R score was 36.5 ± 13.6 , with mean scores of 12.5 ± 5.2 for work-related bullying, 19.1 ± 7.0 for person-related bullying, and 4.9 ± 2.3 for physically intimidating bullying. Overall, 267 (51.7%) participants met the predefined criterion for workplace bullying (NAQ-R ≥ 33). The mean DASS-21 scores were 12.4 ± 9.7 for depression, 11.5 ± 10.0 for anxiety, and 11.3 ± 8.9 for stress. Using the standard severity thresholds after doubling the DASS-21 subscale scores, 266 (51.6%) participants had depression symptoms, 303 (58.7%) had anxiety symptoms, and 160 (31.0%) had stress symptoms in the mild-or-greater range. The mean HPS productivity score was 6.5 ± 18.4 . Mean perceived support from supervisors and colleagues was 2.2 ± 1.1 and 2.3 ± 1.0 , respectively (Table 1).

Reporting, sources, and organisational resolution of workplace bullying

Among the 267 healthcare workers who met the predefined criterion for workplace bullying, 197 (73.8%) did not report the bullying. Of the 70 who reported the bullying, 21 (30.0%) reported that no action was taken, 23 (32.9%) reported that action was taken but they were not satisfied with the response, and 26 (37.1%) reported that action was taken and that they were satisfied with the organisational response (Table 2). Regarding the source of bullying, the perpetrator was identified as a superior for 136 (50.9%), a colleague for 68 (25.5%), and a patient or relative for 63 (23.6%) of those who experienced bullying.

Factors associated with reporting workplace bullying

In the bivariate analyses, reporting was significantly associated with job type ($\chi^2 = 32.055$, $p < .001$), supervisory role ($\chi^2 = 21.871$, $p < .001$), education ($p = .021$), and employment duration ($p = .027$). Gender showed a borderline association with reporting ($\chi^2 = 3.840$, $p = .050$), while marital status, age, supervisor support, and colleague support were not statistically significant. Source of bullying was also significantly associated with reporting ($\chi^2(2) = 13.827$, $p = .001$), with reporting more common among participants bullied by colleagues (42.6%) than among those bullied by patients/relatives (25.4%) or superiors (18.4%). Among the three NAQ-R bullying domains, only physically intimidating bullying was

associated with reporting ($p = .002$); work-related ($p = .821$) and person-related ($p = .937$) bullying were not associated with reporting (Table 3).

In the multivariable logistic regression, gender, job type, supervisory role, employment duration, source of bullying, and physically intimidating bullying remained associated with reporting. Male healthcare workers had higher odds of reporting than female workers (aOR = 2.379, 95% CI: 1.143–4.953, $p = .021$). Compared with non-clinical workers, clinical workers had lower odds of reporting (aOR = 0.207, 95% CI: 0.089–0.484, $p < .001$), while participants with a supervisory role had higher odds of reporting (aOR = 4.769, 95% CI: 2.051–11.089, $p < .001$). Each additional year of employment was associated with lower odds of reporting, although the association was borderline after adjustment (aOR = 0.940, 95% CI: 0.878–1.005, $p = .070$).

Source of bullying remained significantly associated with reporting after adjustment (overall $p = .010$). Compared with participants bullied by a superior, those bullied by a colleague had higher odds of reporting (aOR = 2.753, 95% CI: 1.240–6.112, $p = .013$), whereas there was no significant difference between those bullied by a patient/relative and those bullied by a superior (aOR = 0.578, 95% CI: 0.218–1.532, $p = .271$). Importantly, physically intimidating bullying remained independently associated with reporting. Each one-unit increase in the physically intimidating bullying score was associated with 40.7% higher odds of reporting (aOR = 1.407, 95% CI: 1.214–1.631, $p < .001$). Education was no longer associated with reporting after adjustment (aOR = 0.954, 95% CI: 0.881–1.033, $p = .249$), and colleague support was also not independently associated with reporting (aOR = 1.289, 95% CI: 0.789–2.104, $p = .311$) (Table 3).

Factors associated with satisfactory resolution of reported workplace bullying

Satisfactory resolution was significantly associated with supervisory role ($p = .010$), source of bullying ($p = .002$), education ($p = .004$), employment duration ($p = .004$), supervisor support ($p = .002$), and colleague support ($p = .014$). Participants with a supervisory role reported a higher proportion of satisfactory resolution than those without one (46.9% vs 14.3%). Satisfaction was also more common when the bullying was perpetrated by a superior (64.0%) than by a colleague (24.1%) or a patient/relative (18.8%). Participants who reported satisfactory resolution had higher mean education (17.7 vs 14.4 years), longer employment duration (14.0 vs 9.6 years), and higher mean supervisor support (2.1 vs 1.5) and colleague support scores (2.1 vs 1.6) than those reporting unresolved bullying. The three NAQ-R bullying domains were not significantly associated with satisfactory resolution. Age, gender, marital status, and job type were also not significantly associated with resolution satisfaction (Table 4).

Mental-health and productivity outcomes according to source of workplace bullying

Mental-health and productivity outcomes differed according to the source of workplace bullying. Depression scores differed significantly by source of bullying ($p < .001$), with higher scores among

participants bullied by patients/relatives (22.3 ± 4.6) than among those bullied by superiors (16.9 ± 9.6) or colleagues (18.3 ± 8.0). Tukey post-hoc comparisons confirmed significantly higher depression scores among those bullied by patients/relatives compared with both superiors ($p < .001$) and colleagues ($p = .016$). Stress scores also differed significantly across bullying sources ($p = .043$), although no individual pairwise comparison remained statistically significant after Tukey adjustment. Anxiety scores did not differ significantly according to the source of bullying ($p = .090$). Productivity scores also differed significantly across sources ($p = .029$), with participants bullied by patients/relatives having higher mean HPS1 scores (-0.9 ± 13.5) than those bullied by superiors (-6.2 ± 13.0); this difference was significant in the post-hoc comparison ($p = .021$). The difference between colleagues and either of the other source groups was not significant (Table 5).

Mental-health and productivity outcomes according to reporting and resolution status

Mental-health outcomes did not differ significantly according to reporting and resolution status. There were no significant differences across the three groups in depression ($p = .903$), anxiety ($p = .423$), or stress ($p = .227$). In contrast, productivity differed significantly according to reporting and resolution status ($p = .026$). Participants whose bullying reports were satisfactorily resolved had higher mean HPS scores (1.7 ± 14.6) than those who did not report the bullying (-4.9 ± 12.9) and those whose reports remained unresolved (-6.9 ± 12.8). Tukey post-hoc comparisons showed significantly higher productivity among those with satisfactory resolution compared with both those who did not report the bullying ($p = .044$) and those whose reports remained unresolved ($p = .024$). The difference between the not-reported and unresolved groups was not significant ($p = .637$) (Table 6).

Table 1
Characteristics of healthcare workers and key study variables (N = 516)

Characteristic	Mean/SD or n (%)
Age, years	40.4 ± 11.1
Gender	
Female	255 (49.4%)
Male	261 (50.6%)
Marital status	
Single	116 (22.5%)
Married	400 (77.5%)
Education, years	17.3 ± 4.8
Job type	
Clinical	286 (55.4%)
Non-clinical	230 (44.6%)
Employment duration, years	10.8 ± 7.5
Supervisory role	
Yes	258 (50.0%)
No	258 (50.0%)
Workplace social support	
Supervisor support	2.2 ± 1.1
Colleague support	2.3 ± 1.0
Workplace bullying	
Work-related bullying score	12.5 ± 5.2
Person-related bullying score	19.1 ± 7.0
Physically intimidating bullying score	4.9 ± 2.3
Total NAQ-R score	36.5 ± 13.6
Workplace bullying (NAQ-R ≥ 33)	267 (51.7%)
Mental health (DASS)	
Depression score	12.4 ± 9.7
NAQ-R, Negative Acts Questionnaire–Revised; DASS-21, Depression Anxiety	

Characteristic	Mean/SD or n (%)
Depression symptoms, mild or greater	266 (51.6%)
Anxiety score	11.5 ± 10.0
Anxiety symptoms, mild or greater	303 (58.7%)
Stress score	11.3 ± 8.9
Stress symptoms, mild or greater	160 (31.0%)
Work productivity	
HPS productivity score	6.5 ± 18.4
NAQ-R, Negative Acts Questionnaire–Revised; DASS-21, Depression Anxiety	

Stress Scales; HPS, Healthcare Productivity Survey.

Table 2
Reporting, source, and organisational resolution of workplace bullying

Resolution/reporting status	n	% of total sample	% among workers with bullying
Reporting and resolution status			
No bullying	249	48.3	—
Bullied but not reported	197	38.2	73.8
Bullied, reported but no action	21	4.1	7.9
Bullied, reported, action taken but not satisfied	23	4.5	8.6
Bullied, reported, action taken and satisfied	26	5.0	9.7
Source of bullying among workers with bullying			
Superior	136	26.4	50.9
Colleague	68	13.2	25.5
Patient/relative	63	12.2	23.6

Table 3

Bivariate and multivariable factors associated with reporting workplace bullying among affected healthcare workers (N = 267)

Predictor	Not reported, n (%) / Mean $\pm$ SD	Reported, n (%) / Mean $\pm$ SD	Bivariate <i>p</i>	aOR	95% CI	Adjusted <i>p</i>
Gender			.050			
Female	114 (78.6)	31 (21.4)		Reference	—	
Male	83 (68.0)	39 (32.0)		2.379	1.143–4.953	.021
Marital status			.290			
Single	58 (78.4)	16 (21.6)		—	—	
Married	139 (72.0)	54 (28.0)		—	—	
Job type			< .001			
Non-clinical	52 (53.6)	45 (46.4)		Reference	—	
Clinical	145 (85.3)	25 (14.7)		0.207	0.089–0.484	< .001
Supervisory role			< .001			
No	123 (85.4)	21 (14.6)		Reference	—	
Yes	74 (60.2)	49 (39.8)		4.769	2.051–11.089	< .001
Age, years	39.4 $\pm$ 11.3	40.0 $\pm$ 9.7	.670	—	—	—
Education, years	17.1 $\pm$ 4.4	15.6 $\pm$ 4.7	.021	0.954	0.881–1.033	.249
Employment duration, years	9.2 $\pm$ 6.6	11.3 $\pm$ 6.3	.027	0.940	0.878–1.005	.070
Supervisor support	1.6 $\pm$ 0.7	1.7 $\pm$ 0.7	.299	—	—	—
Colleague support	1.7 $\pm$ 0.7	1.8 $\pm$ 0.7	.123	1.289	0.789–2.104	.311
Source of bullying			.001			.010
Superior	111 (81.6)	25 (18.4)		Reference	—	
Colleague	39 (57.4)	29 (42.6)		2.753	1.240–6.112	.013

Predictor	Not reported, n (%) / Mean $\pm$ SD	Reported, n (%) / Mean $\pm$ SD	Bivariate <i>p</i>	aOR	95% CI	Adjusted <i>p</i>
Gender			.050			
Patient/relative	47 (74.6)	16 (25.4)		0.578	0.218–1.532	.271
NAQ-R bullying domains						
Work-related bullying	16.0 $\pm$ 4.5	16.2 $\pm$ 5.0	.821	—	—	—
Person-related bullying	24.4 $\pm$ 5.6	24.3 $\pm$ 7.0	.937	—	—	—
Physically intimidating bullying	6.0 $\pm$ 2.0	7.2 $\pm$ 2.8	.002	1.407	1.214–1.631	< .001

Table 4
Factors associated with satisfactory resolution of reported workplace bullying among healthcare workers (n = 70)

Variable	Reported unresolved, n (%) / Mean $\pm$ SD	Reported and satisfied, n (%) / Mean $\pm$ SD	p-value
Gender			.211
Female	22 (71.0)	9 (29.0)	
Male	22 (56.4)	17 (43.6)	
Marital status			.083
Single	13 (81.3)	3 (18.8)	
Married	31 (57.4)	23 (42.6)	
Job type			.376
Non-clinical	30 (66.7)	15 (33.3)	
Clinical	14 (56.0)	11 (44.0)	
Supervisory role			.010
No	18 (85.7)	3 (14.3)	
Yes	26 (53.1)	23 (46.9)	
Source of bullying			.002
Superior	9 (36.0)	16 (64.0)	
Colleague	22 (75.9)	7 (24.1)	
Patient/relative	13 (81.3)	3 (18.8)	
Age, years	38.3 $\pm$ 8.7	43.0 $\pm$ 10.8	.066
Education, years	14.4 $\pm$ 4.1	17.7 $\pm$ 4.8	.004
Employment duration, years	9.6 $\pm$ 5.5	14.0 $\pm$ 6.6	.004
Supervisor support	1.5 $\pm$ 0.5	2.1 $\pm$ 0.9	.002
Colleague support	1.6 $\pm$ 0.5	2.1 $\pm$ 0.9	.014
NAQ-R bullying domains			
Work-related bullying	16.9 $\pm$ 5.5	14.9 $\pm$ 3.6	.065
Person-related bullying	25.2 $\pm$ 7.9	23.0 $\pm$ 5.0	.157
Physically intimidating bullying	7.3 $\pm$ 3.3	6.9 $\pm$ 1.5	.463

Table 5

Mental-health and productivity outcomes according to source of workplace bullying among affected healthcare workers (n = 267)

Outcome	Superior, Mean $\pm$ SD	Colleague, Mean $\pm$ SD	Patient/relative, Mean $\pm$ SD	p-value
Depression	16.91 $\pm$ 9.61	18.32 $\pm$ 8.05	22.35 $\pm$ 4.62	< .001
Anxiety	16.70 $\pm$ 10.33	16.76 $\pm$ 8.58	19.59 $\pm$ 5.88	.090
Stress	16.22 $\pm$ 8.57	15.90 $\pm$ 7.19	18.83 $\pm$ 4.93	.043
Productivity	-6.20 $\pm$ 12.96	-4.76 $\pm$ 13.01	-0.86 $\pm$ 13.45	.029

Post-hoc

For depression, scores were higher among those bullied by patients/relatives than those bullied by superiors ($p < .001$) or colleagues ($p = .016$). For productivity, the patient/relative group had higher scores than the superior group ($p = .021$). No significant pairwise differences were observed for anxiety or stress after Tukey adjustment.

Table 6

Mental-health and productivity outcomes according to reporting and resolution of workplace bullying among affected healthcare workers (n = 267)

Outcome	Not reported, Mean $\pm$ SD	Reported but unresolved, Mean $\pm$ SD	Reported and satisfied, Mean $\pm$ SD	p-value
Depression	18.68 $\pm$ 8.48	18.36 $\pm$ 9.56	17.92 $\pm$ 7.39	.903
Anxiety	17.17 $\pm$ 8.86	17.09 $\pm$ 8.74	19.62 $\pm$ 11.09	.423
Stress	17.17 $\pm$ 7.59	16.14 $\pm$ 8.05	14.62 $\pm$ 6.32	.227
Productivity	-4.89 $\pm$ 12.94	-6.86 $\pm$ 12.83	1.69 $\pm$ 14.59	.026

Post-hoc

Productivity scores were higher among workers whose reports were satisfactorily resolved than among those who did not report the bullying ($p = .044$) and those whose reports remained unresolved ($p = .024$). No significant pairwise differences were observed for depression, anxiety, or stress.

Discussion

Principal findings

This study extends the literature on workplace bullying in healthcare by examining not only exposure to bullying, but also what happens after bullying occurs. More than half of the healthcare workers met the predefined criterion for workplace bullying, and the findings demonstrate a substantial gap between

experiencing bullying and obtaining an organisational response. Among workers who experienced bullying, almost three-quarters did not report it. Among those who reported, only a minority reported that the organisational response was satisfactory. These findings suggest that workplace bullying should not be understood solely as an interpersonal problem between an aggressor and an affected worker; rather, it is also an organisational process in which the ability and willingness to report, the response received, and the worker's perception of that response may all be important. This interpretation is consistent with recent reviews identifying organisational culture, hierarchy, leadership, reporting systems and institutional responses as central to the prevention and management of bullying in healthcare [2].

Underreporting and the organisational reporting pathway

The most striking finding was the extent of underreporting. Of the 267 healthcare workers who met the bullying criterion, 197 (73.8%) did not report the experience. This is important because non-reporting may make the apparent organisational burden of bullying considerably smaller than its actual occurrence. Previous research has similarly shown that underreporting of harmful workplace behaviours among healthcare workers is widespread and influenced by organisational, cultural, social and personal factors [7]. Recent evidence identifies perceptions that reporting systems are ineffective, fear of retaliation or career consequences, lack of knowledge of reporting procedures, and limited managerial support among important barriers to reporting [7].

Our findings add an important dimension to this literature by showing that reporting was not distributed uniformly across workers or bullying experiences. Supervisory role was strongly associated with reporting, with workers who held supervisory responsibilities having substantially greater odds of reporting than those without such responsibilities. This may reflect differences in organisational authority, confidence in navigating formal procedures, access to decision-makers, or perceived ability to act without jeopardising one's position. Conversely, clinical workers had substantially lower odds of reporting than non-clinical workers. Although the present cross-sectional data cannot establish why this occurred, the finding suggests that access to or confidence in organisational reporting mechanisms may differ according to occupational position. This is consistent with broader evidence that organisational hierarchy and institutional power are important features of bullying within healthcare organisations [2].

The association between bullying source and reporting is particularly noteworthy. Workers bullied by colleagues were more likely to report than those bullied by superiors, and this difference persisted after adjustment. In contrast, reporting did not differ significantly between those bullied by patients/relatives and those bullied by superiors after adjustment. This pattern suggests that the identity and organisational position of the perpetrator may shape the reporting decision. Bullying by a superior may be especially difficult to report where the perpetrator has authority over work allocation, evaluation, promotion or other employment-related decisions. Conversely, a colleague may be perceived as posing less direct organisational risk to the affected worker. This interpretation is consistent with evidence that fear of consequences, perceived organisational ineffectiveness and unsupportive reporting cultures contribute to underreporting in healthcare settings [7, 8].

The finding that physically intimidating bullying was independently associated with reporting is also informative. Each unit increase in the physically intimidating bullying score was associated with higher odds of reporting, whereas work-related and person-related bullying were not. One plausible explanation is that physically intimidating behaviours may be more readily recognised as unacceptable, serious or actionable than less overt forms of bullying. Workers may therefore perceive a clearer justification for formal reporting when behaviour is threatening or physically intimidating. This interpretation should remain tentative, however, because the present study did not examine workers' reasons for reporting or not reporting. It nevertheless suggests that the visibility or perceived seriousness of a bullying experience may influence whether it enters the formal organisational system.

Reporting is not the same as resolution

A second important finding is that reporting did not necessarily translate into satisfactory organisational resolution. Of the 70 workers who reported bullying, 44 remained in the unresolved group, whereas only 26 reported that action had been taken and that they were satisfied with the organisational response. Thus, even among workers who overcame the barriers to reporting, satisfactory resolution was not assured. This distinction is important because organisational responses are often treated as though the existence of a reporting mechanism itself represents effective management. Our findings suggest otherwise. A reporting system can exist, yet affected workers may still experience no action or may perceive the response as inadequate. Recent reviews similarly emphasise that ineffective reporting mechanisms, lack of managerial support, unclear procedures and inadequate feedback can undermine confidence in organisational responses [2, 7].

The factors associated with satisfactory resolution provide further insight. Supervisory role, source of bullying, education, employment duration, supervisor support and colleague support were associated with satisfaction among those who reported. In particular, satisfactory resolution was considerably more common among workers with supervisory responsibilities than among those without them. This pattern is compatible with the possibility that organisational position influences the extent to which workers can mobilise organisational resources or obtain a response following a complaint. Similarly, the higher levels of supervisor and colleague support among workers reporting satisfactory resolution point toward the importance of the social and organisational environment surrounding the reporting process.

The source of bullying produced one of the clearest differences in resolution. Satisfactory resolution was most common when the perpetrator was a superior and considerably less common when the perpetrator was a colleague or patient/relative. This finding should be interpreted carefully. It does not mean that organisations necessarily respond more effectively when a superior is the perpetrator. Rather, it indicates that the perceived or reported outcome of organisational action differed according to the source of bullying. Several mechanisms could plausibly contribute, including differences in the incidents, organisational authority, the type of response available, or the circumstances under which the complaint was made. These mechanisms cannot be distinguished in the current cross-sectional dataset and warrant qualitative investigation.

Importantly, the three NAQ-R domains were not significantly associated with satisfactory resolution. This contrasts with the finding for reporting, where physically intimidating bullying was independently associated with reporting. Taken together, these findings suggest that what prompts a worker to report may not be the same as what determines whether the organisational response is experienced as satisfactory. That distinction is conceptually important. The first stage concerns entry into the reporting system; the second concerns what happens after entry. Treating these as a single outcome may obscure meaningful differences in the organisational pathway.

Bullying source and mental health and productivity

The study also identified differences according to the source of bullying. Depression scores differed significantly by perpetrator, with the highest scores among workers bullied by patients/relatives. These workers had significantly higher depression scores than workers bullied by superiors or colleagues. Stress and productivity also differed overall by bullying source, although the pairwise evidence was more limited: after Tukey adjustment, no individual comparison for stress remained significant, whereas productivity was significantly higher among those bullied by patients/relatives than among those bullied by superiors. The depression finding is noteworthy because existing literature has already established a broad relationship between workplace bullying and adverse psychological outcomes. Meta-analytic evidence has demonstrated associations between workplace bullying and depression, anxiety and stress-related psychological complaints, while more recent healthcare-specific evidence has linked bullying with job stress and poorer professional quality of life [5, 21].

Our findings potentially extend this literature by suggesting that the source of bullying may matter, rather than all bullying experiences having equivalent psychological implications. Bullying from patients or relatives may occur within already demanding clinical interactions and may combine interpersonal hostility with the emotional and occupational demands of patient care. However, this explanation remains speculative. The present study did not measure the severity, duration, frequency or context of individual bullying episodes, and therefore cannot establish why patient/relative-perpetrated bullying was associated with higher depression scores. The absence of a significant difference in anxiety across bullying sources is also important. Similarly, although the overall stress comparison was statistically significant, the absence of significant pairwise differences after adjustment indicates that the evidence for source-specific differences in stress is weaker than that for depression. These findings reinforce the importance of not treating all mental-health outcomes as interchangeable. The relationship between bullying and psychological wellbeing may differ according to the particular outcome being considered.

Organisational resolution and work productivity

Perhaps the most practically important finding concerns productivity. Mental-health scores did not differ significantly across the three reporting/resolution groups. Depression, anxiety and stress were therefore not demonstrably different between workers who did not report bullying, those whose reports remained unresolved, and those who reported satisfactory resolution. Productivity showed a different pattern. Workers whose reports were satisfactorily resolved had higher HPS productivity scores than both those

who did not report bullying and those whose reports remained unresolved. The difference was statistically significant for both comparisons, whereas productivity did not differ between the not-reported and unresolved groups. This finding deserves particular attention because it shifts the discussion from the conventional question of whether bullying is associated with psychological distress to the organisational consequences of how bullying is handled. Previous research has established that workplace bullying is associated with job stress and adverse occupational outcomes [5]. However, the present findings suggest that the organisational response following bullying may be relevant to work functioning independently of the simple presence or absence of a report.

Several interpretations are possible. A satisfactory organisational response may restore a worker's sense of organisational support, fairness and safety, potentially allowing them to function more effectively at work. Conversely, workers who experience unresolved bullying may continue to face interpersonal strain or uncertainty that interferes with work functioning. The finding is also compatible with the organisational justice perspective underpinning this study: the experience of being heard, receiving an organisational response and perceiving that response as satisfactory may be relevant to how workers experience their workplace. Nevertheless, the direction of this relationship cannot be established. It is equally possible that workers who are more productive, more organisationally engaged or better positioned within the organisation are more likely to obtain satisfactory resolution. Indeed, the higher prevalence of supervisory roles and greater levels of workplace support among workers reporting satisfactory resolution reinforces the possibility of selection or confounding. Therefore, the finding should be interpreted as an association between satisfactory resolution and productivity, rather than evidence that satisfactory resolution causes improved productivity.

Why mental health did not differ across the reporting/resolution pathway

The absence of significant differences in depression, anxiety and stress across the reporting/resolution groups deserves consideration rather than being treated simply as a null finding. It may indicate that the mental-health consequences of bullying are influenced more strongly by the underlying exposure itself than by whether the worker subsequently reports the experience. Existing evidence consistently demonstrates an association between bullying and mental-health problems, while longitudinal research also suggests that the relationship may be bidirectional, with poorer mental health potentially increasing vulnerability to subsequent bullying [22].

It is also possible that the number of workers in the satisfactorily resolved group was too small to detect modest differences in mental-health outcomes. Only 26 workers were in this group. Furthermore, mental health was measured at one point in time, meaning that the timing of the bullying, reporting and organisational response relative to the assessment of mental health could not be established. A satisfactory response that occurred recently may not yet have influenced psychological outcomes, while longstanding psychological effects may persist despite subsequent resolution. Thus, the absence of significant mental-health differences should not be interpreted as evidence that organisational resolution

is irrelevant to psychological wellbeing. Rather, it suggests that the relationship between organisational response and mental health may be more complex than the relationship with work productivity observed in this study.

Implications for healthcare organisations

The findings have several practical implications. First, organisations should not use the number of formal complaints as the sole indicator of the extent of workplace bullying. With 73.8% of affected workers not reporting their experiences, complaint statistics may substantially underestimate the underlying problem. Reporting systems therefore need to be accompanied by a workplace culture in which workers believe that reporting is safe, worthwhile and likely to result in an appropriate response. Recent evidence supports organisational strategies such as simplified reporting systems, clear feedback mechanisms, visible managerial support and staff education [7, 8]. Second, organisations should distinguish reporting from resolution. A complaint that has been logged should not automatically be considered a successfully managed bullying incident. Organisations should monitor whether complaints are investigated, whether action is taken, whether affected workers receive feedback, and whether they consider the response satisfactory. This would shift organisational monitoring from counting complaints toward evaluating the quality and consequences of organisational responses.

Third, the findings indicate that interventions may need to be sensitive to organisational hierarchy. Workers without supervisory responsibilities and clinical workers were less likely to report bullying, while bullying by superiors was less likely to be reported than bullying by colleagues. This suggests that confidential or independent reporting pathways may be particularly important where the alleged perpetrator occupies a position of authority. Recent reviews similarly emphasise leadership accountability, supportive organisational environments and accessible reporting procedures as important components of effective responses [7, 8]. Finally, the association between satisfactory resolution and productivity provides a potentially important organisational argument for investing in effective bullying-management systems. Workplace bullying is often discussed primarily in terms of worker wellbeing, but the present findings suggest that the way organisations respond may also have implications for work functioning. This is consistent with broader evidence linking healthcare workers' mental health and adverse workplace conditions with absenteeism, presenteeism and reduced productivity.

Strengths and limitations

A major strength of this study is its inclusion of both clinical and non-clinical healthcare workers and its examination of multiple stages of the workplace bullying pathway within the same sample. Rather than treating bullying as a binary exposure, the study distinguished non-reporting, reporting without satisfactory resolution, and reporting with satisfactory resolution. It also considered the source of bullying and the three NAQ-R domains, allowing a more differentiated examination of reporting and organisational resolution.

Several limitations should be considered. First, the cross-sectional design prevents conclusions about temporal or causal relationships. In particular, the associations between reporting/resolution and productivity cannot establish that satisfactory organisational resolution improves productivity. Second, reporting and satisfaction with organisational response were self-reported and may be influenced by recall or subjective perceptions of the organisational response. Third, the relatively small number of workers in the satisfactorily resolved group ($n = 26$) limited statistical power and precluded a reliable multivariable analysis of factors associated with resolution. Fourth, the study did not collect detailed information on the timing, frequency, duration or severity of individual bullying experiences, or on the specific actions taken following reports. Such information could help explain differences in reporting and resolution. Fifth, the mental health, productivity and bullying-source analyses were based primarily on unadjusted group comparisons; therefore, potential confounding cannot be excluded. Finally, the study was conducted in a single teaching hospital, which may limit the generalisability of the findings to other healthcare settings.

Conclusion

The findings suggest that workplace bullying in healthcare should be understood not simply as an exposure with psychological consequences, but as an organisational pathway. A substantial proportion of affected workers did not report bullying, and among those who did report, satisfactory resolution was far from universal. Reporting was shaped by organisational position, bullying source and the physically intimidating dimension of bullying, while satisfactory resolution was associated with supervisory role, bullying source and workplace support. The source of bullying was also associated with differences in depression and productivity, whereas the reporting/resolution pathway was associated with productivity but not depression, anxiety or stress.

Taken together, these findings suggest that the organisational response to bullying may represent an important and underexamined dimension of workplace wellbeing and work functioning. Effective anti-bullying strategies should therefore move beyond encouraging workers to report and focus equally on creating reporting systems that are safe, credible, responsive and capable of producing satisfactory organisational outcomes. Future longitudinal and mixed-methods research should examine how the timing, nature and quality of organisational responses influence subsequent mental health, productivity and retention among healthcare workers.

Declarations

Ethics approval and consent to participate

This study was conducted in line with the Declaration of Helsinki (as revised in 2013). Ethical approval for the study was obtained from the Research Ethics Committee of Osun State University Teaching Hospital, Osogbo, Nigeria (Approval No. UTH/EC/2022/05/592). Written informed consent was obtained from all participants.

Consent for publication

Not applicable

Competing interests

No competing interests

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Author Contribution

ABA was involved in the conceptualisation and design of the study. ABA, OAA, AI, DOF, and CEM were involved in data collection, analysis, and interpretation. ABA wrote the initial draft of the manuscript. ABA, OAA, AI, DOF, and CEM contributed to the writing of the final draft of the manuscript. All authors read and approved the final manuscript.

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Data Availability

The data generated in this study is available from the corresponding author on reasonable request

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