Workplace bullying and mental health of medical interns in KwaZulu-Natal Province, South Africa

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Background. There is a silent epidemic of workplace bullying among medical doctors, with junior doctors being the most vulnerable. Little research has been conducted to establish the nature and extent of bullying of medical interns in KwaZulu-Natal (KZN) Province, South Africa.

Objectives. To describe the prevalence and types of workplace bullying, identify alleged perpetrators, and explore the association between bullying and the mental health and quality of life of medical interns in KZN.

Methods. A cross-sectional online survey was conducted across all state hospitals in KZN designated for training first- and second-year medical interns, from 1 June to 31 August 2023, using snowball sampling. Participants completed a newly designed sociodemographic, clinical and bullying questionnaire, the Negative Acts Questionnaire (NAQ), the Patient Health Questionnaire-9 (PHQ-9), the Generalized Anxiety Disorder-7 (GAD-7) scale, and the World Health Organization Quality of Life scale.

Results. Of the 270 medical interns employed in KZN, 182 responded, and 135 were included in the study. All interns were classified as having experienced bullying according to the NAQ, and 61.8% screened positive for symptoms of anxiety and/or depression on the PHQ-9 and GAD-7. The most commonly reported somatic symptoms and work-related behaviours caused by workplace bullying were recurrent headaches (42.5%), chronic lethargy (79.3%), gastrointestinal illnesses (42.7%), sleep disturbances (67.8%), loss of interest in work (81.0%) and absenteeism from work (43.5%). Most participants (61.2%) did not report the bullying to senior staff, and most of those who did report were dissatisfied with the outcome of the investigation (91.2%).

Conclusion. Medical interns in KZN have a high prevalence of anxiety and depressive symptoms, with a negative impact on their quality of life. Bullying by senior medical and nursing staff is pervasive. However, it was not possible to explore the associations between bullying and mental health, as all participants had high bullying scores on the NAQ.

Keywords: workplace bullying, medical interns, junior doctors, anxiety, depression, South Africa

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Bullying in the workplace is defined as 'repeated actions and practices that are directed against one or more workers that are unwanted by the worker(s), and whether carried out deliberately or unconsciously, cause humiliation, offence, and distress'.[1] Bullying interferes with work performance and/or creates an unpleasant working environment for its targets. While the medical profession is traditionally known for its focus on compassion and improving patient care, it is increasingly acknowledged that medical professionals face significant challenges in the workplace.[2] The World Health Organization has described workplace bullying in the medical community as a 'silent epidemic'.[3]

The lifetime prevalence of bullying among medical students and doctors is estimated to range from 10% to 98% in global studies. In the UK, junior medical doctors reported a 37% prevalence of workplace bullying,[4] while a figure of 42% has been reported for the USA[5] and a figure of 78% for South Africa (SA).[6] An international systematic review and meta-analysis found that the pooled prevalence of bullying among medical registrars (residents) was 51% (95% confidence interval (CI) 36 - 66).[5]

A survey conducted in 2019 among 70 (39.1%) of the 179 psychiatry registrars from all specialist training institutions in SA found that ~48% reported being bullied.[7] Of this sample, 21 reported consultants as the main perpetrators, followed by patients and patients' relatives, hospital management, other registrars, nurses and university management. The most common form of abuse was belittling/humiliation, followed by threats/insults, deliberate prevention from accessing training, and other forms of bullying.[7]

The present study aimed to describe the lifetime prevalence (using a sociodemographic questionnaire) and 6-month prevalence (using the Negative Acts Questionnaire (NAQ)) of bullying among medical interns in KwaZulu-Natal (KZN) Province, SA, types of bullying, alleged perpetrators, help-seeking behaviour, and the association between bullying and the interns' mental health and quality of life.

Methods

Study design

This was a cross-sectional, descriptive, quantitative study. An online survey link was distributed to medical interns and was available on the RedCap (Research Electronic Data Capture) platform hosted at the University of KwaZulu-Natal from 1 June to 31 August 2023.

Study setting

The study information and participation request were sent to the intern curators of the hospitals where medical interns are placed in KZN (King Edward VIII Hospital, Prince Mshiyeni Memorial Hospital, Addington Hospital, R K Khan Hospital, Mahatma Gandhi Memorial Hospital/Dr Pixley Ka Isaka Seme Memorial Hospital, the Pietermaritzburg Complex, Ladysmith Hospital, Newcastle Hospital, General Justice Gizenga Mpanza Regional Hospital and Ngwelezane

Hospital). According to the Department of Health District Office, 270 first- and second-year medical interns were allocated to these hospitals during 2023, and study information was also shared via email and meetings.

To recruit participants, the study employed both convenience sampling and snowball sampling, a non-probability technique in which existing participants recruit future subjects from among their peers. Medical interns recruited other medical interns via electronic communication platforms, including WhatsApp, intern email groups, and the KZN internship Facebook page. The study link to the survey questionnaires, hosted on a secure online platform (RedCap), was circulated through these platforms.

Sample size

Based on an estimated population size of 250 interns and a bullying prevalence rate of 49% reported by Beath *et al.*[7] in 2021 among psychiatry registrars, the present study aimed for a sample size of 152 participants. This sample size would provide a 95% CI with a 5% error margin.

Participants

All medical interns who were completing their internship training between January 2022 and December 2023 at a state hospital in KZN and were registered with the Health Professions Council of South Africa were eligible to participate. Participants had to be aged ≥18 years and engaged in medical internship. Health-related internships other than medical were excluded.

Measures

Five tools were used to collect data from participants: a newly designed sociodemographic, clinical and workplace bullying questionnaire, the Patient Health Questionnaire-9 (PHQ-9), the Generalized Anxiety Disorder-7 scale (GAD-7), the World Health Organization Quality of Life scale (brief version) (WHOQOL-BREF), and the NAQ.

Sociodemographic, clinical and workplace bullying questionnaire. This questionnaire recorded participants' demographic (age, gender, race, marital status) and occupational data (year of internship, rotations completed), as well as clinical data (wellbeing). Bullying-related questions assessed whether participants felt that they had ever been targeted by bullying in the workplace (lifetime bullying), the consequences (including the effect on their attitude towards work), and any help-seeking behaviour. The questionnaire was designed based on a review of the literature. The validity and reliability of the sociodemographic questionnaire were not tested, but it was piloted among medical doctors prior to its use.

NAQ. Bullying was measured using the NAQ, which consists of 29 items describing negative behaviours associated with workplace bullying over the past 6 months. It is a standardised Likert-scale questionnaire with response categories as follows: 1 = never, 2 = now and then, 3 = daily, 4 = weekly, and 5 = monthly. The aim is to measure how often participants have been exposed to negative acts during a 6-month period. Responses are summed, with a possible total score of 145. A score <33 indicates no bullying, a score between 33 and 45 suggests occasional bullying, and a score >45 indicates being a target of workplace bullying. The NAQ has demonstrated good psychometric properties, including a Cronbach's alpha of 0.90 for the 29 items.[3]

GAD-7. The GAD-7, developed by Spitzer *et al.*,[8] is a self-report questionnaire used to screen for and measure the severity of generalised anxiety disorder (GAD). It consists of 7 items rated on a 4-point scale (0 - 3), with total scores ranging from 0 to 21. Scores of 5, 10 and 15 correspond to mild, moderate and severe anxiety, respectively. A cut-off score of ≥10 has a sensitivity of 0.89 and a specificity of 0.82 for identifying GAD and was used to denote a positive screen. This tool has been used in the SA context.[9]

PHQ-9. The PHQ-9 is a 9-item self-administered questionnaire used to screen for depressive symptoms over the past 2 weeks. Each item is rated on a 4-point scale based on the frequency of symptoms. Higher scores indicate greater severity of depression. The PHQ-9 is used as both a diagnostic tool and a severity measure. Scores of ≥10 have been found to have a sensitivity of 88% and a specificity of 88% for diagnosing depression and were used as the cut-off point for a positive screen.[10] The PHQ-9 has been validated for use in SA.[11,12]

WHOQOL-BREF. The WHOQOL-BREF is a 26-item quality-of-life assessment tool that measures four domains: physical health, psychological health, social relationships, and environment. The tool has been validated for use in SA.[13] It has a sensitivity of 89% and a specificity of 82% at a cut-off score of 10.[14]

Statistical analysis

Data were analysed using Stata version 18 software (StataCorp, USA). Descriptive analysis was conducted using frequencies, percentages, means and medians. Pearson's χ^2 test was used to test for associations between categorical variables, and the two-sample *t*-test was used to assess associations between categorical and continuous variables. The level of significance was set at $p<0.05$.

Ethical considerations

Approval for the study was obtained from the University of KwaZulu-Natal Biomedical Research Ethics Committee (ref. no. BREC/00005111/2022) and the KZN Department of Health. All participants provided written informed consent, and their anonymity was maintained throughout the study. To address potential psychological distress, a mental health resource guide was displayed upon completion of the online survey. The survey also included gratitude remarks, directing participants to relevant support services. The anonymised questionnaires were uploaded to an electronic database.

Results

Of the 270 medical interns who were employed during the study period, 182 (67.4%) responded. Data from 135 (74.2% of those who responded) were analysed, as 47 questionnaires were excluded owing to incompleteness. For some of those that were included, the rate of responses to questions was unfortunately not optimal, so some information was missing. The data are presented according to the five data collection tools, followed by statistical analysis to establish associations.

Sociodemographic data

The mean (standard deviation) age of participants was 26.6 (2.7) years, and the majority were female (*n*=102; 75.6%), black (*n*=56; 41.8%) and single (*n*=105; 80.2%). Ninety-four participants (71.2%) were in their second year of internship. The sociodemographic variables are detailed in Table 1.

Prevalence and types of bullying

Table 2 summarises the prevalence of various bullying types and the alleged perpetrators, as reported in the sociodemographic questionnaire. Almost all participants (*n*=125; 92.6% of the total number) reported experiencing bullying during one or more clinical rotations, often by workplace personnel, including medical officers,

Table 1. Sociodemographic characteristics (*N*=135)

Variable	*n* (%)*
Age (years), mean (SD)	26.6 (2.7)
Sex	
Female	102 (75.6)
Male	33 (24.4)
Race	
Black	56 (41.8)
White	25 (18.7)
Coloured	10 (7.5)
Indian	42 (31.3)
Other	1 (0.7)
Language	
English	90 (67.7)
Afrikaans	5 (3.8)
Nguni languages	32 (24.1)
Sotho languages	4 (3.0)
Other	2 (1.5)
Marital status	
Single	105 (80.2)
Other	26 (19.8)
Year of internship	
First year	38 (28.8)
Second year	94 (71.2)

SD = standard deviation.
*Except where otherwise indicated. Reported percentages represent totals for each variable, calculated after excluding missing data.

consultants and nurses. In addition, 52 participants reported being bullied by patients or their relatives. Of the participants, 107 (79.3%) completed the NAQ. Notably, 9 (90.0%) of the 10 participants who indicated that they had not been bullied on the sociodemographic questionnaire completed the NAQ (one did not complete it), on which they all scored high and were classified as having been a target of bullying in the past 6 months. The median (interquartile range) NAQ score was 46.0 (35.0 - 58.0), and all participants who completed the tool scored high as bullying targets.

The most prevalent form of bullying as reported on the sociodemographic questionnaire was psychological bullying (*n*=116; 91.3%), followed by intellectual bullying (*n*=112; 88.2%). The least common forms were cyberbullying (*n*=10; 9.7%) and physical bullying (*n*=9; 8.7%). More than one type of bullying was commonly experienced. Most participants identified medical officers (*n*=99; 83.2%) as the primary perpetrators, followed by nurses (*n*=73; 67.6%), consultants (*n*=71; 65.1%), registrars (*n*=52; 51.0%), patients (*n*=43; 43.4%), patients' relatives (*n*=36; 37.1%), and managers (*n*=26, 26.5%).

Table 3 provides an overview of the somatic symptoms, work-related behaviours (such as absenteeism and loss of interest in work) and help-seeking behaviours reported by the participants.

The results of the depression and anxiety screenings using the PHQ-9 and GAD-7, as well as the physical, psychological and social relationship impairments as measured by the WHO-QOL BREF, are summarised in Table 4. Of 102 participants who completed both the PHQ-9 and GAD-7, 63 (61.8%) screened positive for depression, anxiety or both.

Table 5 shows the association of bullying with mental health and WHOQOL-BREF scores. We considered looking for associations between NAQ scores and mental health, but all the interns scored in the high target range.

Table 2. Bullying types and perpetrators (*N*=135)

Variable	*n* (%)*
Bullying	
Bullying experiences in rotations	
No	10 (7.4)
Yes	125 (92.6)
Psychological	
No	11 (8.7)
Yes	116 (91.3)
Physical	
No	95 (91.3)
Yes	9 (8.7)
Intellectual	
No	15 (11.8)
Yes	112 (88.2)
Cyberbullying	
No	93 (90.3)
Yes	10 (9.7)
Number of bullying-type exposures, median (IQR)	2.0 (2.0 - 2.0)
Any bullying type (one or more)	
No	4 (3.1)
Yes	125 (96.9)
Perpetrator	
Medical officer	
No	20 (16.8)
Yes	99 (83.2)
Registrar	
No	50 (49.0)
Yes	52 (51.0)
Consultant	
No	38 (34.9)
Yes	71 (65.1)
Nurses	
No	35 (32.4)
Yes	73 (67.6)
Patients	
No	56 (56.7)
Yes	43 (43.4)
Patients' relatives	
No	61 (62.9)
Yes	36 (37.1)
Managers	
No	72 (73.5)
Yes	26 (26.5)

IQR = interquartile range.
*Except where otherwise indicated. Reported percentages represent totals for each variable, calculated after excluding missing data.

Discussion

This study aimed to describe the prevalence and types of workplace bullying, identify alleged perpetrators, and examine the association between bullying and the mental health and quality of life of medical interns in KZN, SA. A high prevalence of lifetime workplace bullying was reported, with 92.6% of participants reporting they had experienced bullying, and all who completed the NAQ scoring positive as bullying targets. Additionally, participants reported a high prevalence of symptoms of anxiety and depression. Many participants reported somatic symptoms and loss of interest in their work, with 43.5% attributing absenteeism to workplace bullying. Furthermore,

Table 3. Somatic symptoms and work-related and help-seeking behaviour (*N*=135)

Variable	*n* (%)*
Psychiatric diagnosis	
No diagnosis	17 (13.3)
Has diagnosis†	111 (86.7)
Number of physical symptoms, median (IQR)	2.0 (1.0 - 3.0)
Recurrent headaches	
No	61 (57.5)
Yes	45 (42.5)
Chronic lethargy	
No	24 (20.7)
Yes	92 (79.3)
Chronic pain	
No	76 (74.5)
Yes	26 (25.5)
Gastrointestinal illnesses	
No	59 (57.3)
Yes	44 (42.7)
Sleep disturbance	
No	39 (32.2)
Yes	82 (67.8)
Lost interest in work	
No	23 (19.0)
Yes	98 (81.0)
Absenteeism	
No	61 (56.5)
Yes	47 (43.5)
Other	
No	75 (70.1)
Yes	32 (29.9)
Help seeking	
No	61 (49.2)
Yes	63 (50.8)
Consulted a psychologist/counsellor	
No	88 (72.7)
Yes	33 (27.3)
Seen general practitioner	
No	90 (78.9)
Yes	24 (21.1)
Consulted other	
No	90 (77.6)
Yes	26 (22.4)

IQR = interquartile range.
*Except where otherwise indicated. Reported percentages represent totals for each variable, calculated after excluding missing data.
†Self-reported (we did not verify whether this was formally diagnosed).

Table 4. Mental health symptoms and quality of life (*N*=107)

Variable	*n* (%)*
PHQ-9 category	
No or minimal depression	24 (23.8)
Mild depression	24 (23.8)
Moderate depression	21 (20.8)
Moderately severe depression	18 (17.8)
Severe depression	14 (13.9)
GAD-7 category	
Minimal anxiety	26 (24.8)
Mild anxiety	24 (22.9)
Moderate anxiety	26 (24.8)
Severe anxiety	29 (27.6)
WHOQOL-BREF score, median (IQR)	
Physical health	46.4 (39.3 - 53.6)
Psychological health	50.0 (41.7 - 62.5)
Social relationships	50.0 (33.3 - 75.0)
Immediate environment	62.5 (50.0 - 71.9)

PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder-7 scale; WHOQUOL-BREF = World Health Organization Quality of Life scale (brief version); IQR = interquartile range.
*Except where otherwise indicated. Reported percentages represent totals for each variable, calculated after excluding missing data.

most participants (61.2%) did not report the bullying, and most of those who did report it were dissatisfied with the outcome of the investigation (91.2%).

The 6-month prevalence of bullying in this study, as measured by the NAQ, is much higher than that reported in recent studies. For example, Samsudin *et al.*,[15] who conducted research among junior doctors in Malaysia, found a bullying prevalence of just 13% among the doctors. Conco *et al.*[16] reported a prevalence of 58% in SA, with 44% of participants experiencing bullying and over two-thirds witnessing it. An SA study by Fakroodeen[17] found an 81% prevalence of bullying among medical students. These studies confirm that bullying in the medical field is highly prevalent. Most participants in the present study (71.2%) were second-year medical interns who had spent time in various clinical rotations and facilities, which gave them ample opportunity to describe the extent of their bullying experiences. As the most junior members in the medical hierarchy, interns are particularly vulnerable to bullying.

Workplace bullying is generally more commonly experienced by female than male employees, particularly in the early stages of their careers. Conco *et al.*[16] reported a predominance of female victims (70%), while Quine[4] observed a 37% bullying prevalence among junior doctors in the UK, with almost half (49.8%) being female victims.

The most common form of bullying reported by interns in the present study was psychological, followed by intellectual bullying. Many other studies have not consistently described specific types of bullying, which are often categorised as verbal hostility, angry outbursts, unreasonable work expectations, and social exclusion.[3] The high prevalence of intellectual bullying in the present study is consistent with other research. Quine,[4] for example, highlighted persistent belittling and unjustified criticism as the most common forms of bullying.

In the present study, perpetrators were often fellow medical professionals, including medical officers, nurses, consultants and registrars. This finding aligns with those of other studies, emphasising the hierarchical structure of hospitals and the gruelling nature of medical training, which fosters a culture where bullying is either unchallenged or perceived as a 'functional educational tool'.[15]

The figures for anxiety and depressive symptoms in the present study are higher than those reported in previous studies in KZN, such as a survey of doctors in rural KZN which found that 35.6% and 23.3% of participants screened positive for depression and anxiety, respectively.[18] Another study in urban KZN reported that 20% of doctors screened positive for anxiety and 21.3% for depression.[9] However, studies by Sansone and Sansone[19] and Conco *et al.*[16] support the 61.8% prevalence found in the present study, which may be attributed to the higher proportion of junior doctors involved.

Junior doctors may fear repercussions from reporting bullying by senior staff, which can contribute to their silence and make it difficult to address bullying in the medical field. Additionally, victims may

Table 5. Mental health symptoms and quality of life association with sociodemographic report of bullying

Variable	Bullied in rotations, *n* (%)*		*p*-value	Test
	No (*n*=10)	Yes (*n*=125)		
PHQ-9			0.06	Pearson's χ^2
PHQ–	7 (77.8)	41 (44.6)		
PHQ+	2 (22.2)†	51 (55.4)‡		
GAD-7			0.23	Pearson's χ^2
GAD–	6 (66.7)	44 (45.8)		
GAD+	3 (33.3)§	52 (54.2)¶		
WHOQUOL-BREF score, mean (SD)				
Physical health	50.8 (11.0)	45.4 (11.4)	0.18	Two-sample *t*-test
Psychological health	61.1 (12.1)	49.6 (14.5)	0.03	Two-sample *t*-test
Social relationships	55.6 (22.8)	54.4 (24.3)	0.89	Two-sample *t*-test
Immediate environment	66.0 (16.1)	60.2 (14.4)	0.26	Two-sample *t*-test

PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder-7 scale; – = negative; + = positive;
WHOQUOL-BREF = World Health Organization Quality of Life scale (brief version); SD = standard deviation.
*Except where otherwise indicated. Reported percentages represent totals for each variable, calculated after excluding missing data.
†PHQ+ and not bullied in rotations, 95% CI 5.5 - 58.4.
‡PHQ+ and bullied in rotations, 95% CI 45.1 - 65.3.
§GAD+ and not bullied in rotations, 95% CI 11.0 - 67.0.
¶GAD+ and bullied in rotations, 95% CI 44.0 - 64.0.

feel that people in positions of authority are aware of the bullying but unwilling to address it,[20] a finding consistent with the present study, in which the majority of participants did not report their experiences, and most of those who did were dissatisfied with the outcomes. This situation underscores the need for confidential reporting and investigating mechanisms to address medical bullying.

Study limitations

Limitations of the study include the cross-sectional design, which means that causation cannot be established. Additionally, selection bias may have occurred, as participants who experienced bullying may have been more likely to respond, while those who did not may have been less likely to participate. The non-probability sampling method and reliance on social media for recruitment may have excluded individuals without access to or engagement with these platforms, resulting in a potential bias. The study also relied on self-reported data, which may have introduced biases. Moreover, incomplete responses were excluded, which could have further influenced the results. Finally, the study's focus on one province (KZN) limits the generalisability of the findings, although it provides important insights into the experiences of interns in the region.

Conclusion

This study found that workplace bullying is highly prevalent among medical interns, who also reported elevated levels of anxiety, depression and psychosomatic symptoms. It is concerning that most participants did not report the bullying, and that those who did were dissatisfied with the responses. There is a need to raise awareness of bullying and its negative effects in medical institutions and to share these findings with hospitals that host interns. Standardised reporting procedures and clear consequences for perpetrators must be established to prevent variations in disciplinary actions across institutions. Mechanisms to address mental health challenges resulting from work-related stress should be implemented, and better reporting systems for bullying should be put in place to ensure that victims are heard and perpetrators are held accountable. Qualitative research is also recommended to give voice to the lived experiences of those in the medical workplace, particularly junior staff who often find themselves interacting with more senior members.

Data availability. The datasets generated and analysed during the present study are available from the corresponding author (AI) on reasonable request.

Declaration. The research for this study was done in partial fulfilment of the requirements for AI's MMed (Psychiatry) degree at the University of KwaZulu-Natal.

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