

Effectiveness of the Occupational Health and Safety Risk Management System in a Psychiatric Unit: A Case Study of Harare Central Hospital, Zimbabwe

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Abstract

Health workers attached to psychiatric units face elevated occupational risks arising from exposure to patients whose behaviour can be unpredictable and, at times, violent, yet the effectiveness of occupational health and safety (OHS) risk management in mental health settings remains under-researched in low-resource settings such as Zimbabwe. This study examined the effectiveness of the OHS risk management system (RMS) at the psychiatric unit of Harare Central Hospital. A cross-sectional design underpinned by a positivist research philosophy was adopted, combining quantitative and qualitative approaches. A stratified random sample of 50 employees was drawn from a target population of 3,058 hospital staff, and self-administered questionnaires, key informant interviews, observation and secondary hospital records were used to collect data; 38 questionnaires were returned, giving a response rate of 76%. Findings showed that although an OHS risk management plan had existed since January 2017, 60% of respondents were unaware of its existence, 68.4% did not understand the risk management system, and 79% could not identify hazards in their workplace. Training coverage was low, with between 74% and 82% of respondents having received no training in hazard identification, hierarchy of controls or OHS protocols. Compliance with OHS protocols was weak, with 66% of respondents indicating non-compliance and 76% disagreeing that risk assessment was well implemented. Documented cases of patient-on-staff violence corroborated these findings. The study concludes that the OHS RMS at Harare Central Hospital's psychiatric unit is largely ineffective owing to poor awareness, inadequate training, the absence of a dedicated safety officer, and weak enforcement, and recommends mandatory induction training, appointment of a Safety, Health and Environment Officer, and establishment of a risk management committee.

Keywords: hazards, hospital staff, occupational health and safety, psychiatric nursing, risk management, Zimbabwe

Introduction

Risk is broadly understood as the possibility of injury or harm arising from uncertainty, and in a health-care setting the potential for loss or injury is prevalent in several forms, from errors in the execution of medical procedures to the mismanagement of patient information [1]. Risk management is the systematic mechanism used to establish, appraise and address potential and actual risk, with the intention of

minimising impending or potential harm [2]. In hospital settings, and more specifically within psychiatric departments, this potential for harm is elevated relative to other functional areas because of the unpredictable and occasionally violent behaviour of patients [3].

Psychiatric nurses are more prone to occupational injury than other categories of health-care givers largely because of exposure to violence from patients who may act out anger, frustration or emotional distress using whatever means are available to them [3]. Although legislation and ethical considerations require that acute psychiatric patients be treated with respect and with the least restrictive interventions, the corresponding reduction in the use of restraint has, in several settings, been associated with an increase in assaults on health workers [4]. Globally, occupational accidents and diseases are estimated to claim over two million lives annually, with a further 300 million non-fatal occupational accidents recorded each year, consuming more than four percent of global gross domestic product [4]. Nurses, in particular, face a diversity of occupational hazards that can be classified as biological, chemical, physical, ergonomic and psychosocial [5], yet occupational health and safety (OHS) continues to receive comparatively little attention when set against the resources devoted to communicable disease programmes such as HIV, malaria and tuberculosis.

At Harare Central Hospital, the psychiatric unit has recorded an increasing number of physical, social and mental health cases among care givers relative to other departments within the referral hospital, despite the existence of an OHS risk management system since January 2017 [6]. Cases and complaints associated with bullying, psychosomatic assault, tiredness and unremitting sickness among health workers have been on the rise, alongside conditions such as depression, stress and work-related neuroses. The persistence of these problems in the presence of an apparently functioning risk management system raises the question of whether that system is, in practice, effective. This gap between the existence of a formal system and its demonstrated impact on staff safety constitutes the problem addressed by this study, and represents the novelty of the present work relative to prior literature, which has tended to examine either the existence of OHS policy or the incidence of workplace violence, but rarely both jointly within a Zimbabwean psychiatric referral setting.

The aim of the study was to analyse the effectiveness of the OHS risk management system at Harare Central Hospital's psychiatric unit. The specific objectives were: (1) to assess the risk management system at the Psychiatric Unit; (2) to evaluate the knowledge of psychiatric staff on the OHS risk management system; and (3) to analyse the level of compliance of Psychiatric Unit staff with written OHS protocols. The study was guided by the following research questions: Do mental health workers recognise the occupational hazards to which they are exposed? What knowledge do psychiatric staff have of the OHS risk management system and how does this help them mitigate occupational hazards? How do psychiatric staff cope with the occupational hazards they face? Do Psychiatric Unit staff comply with the written protocols addressing occupational health hazards?

Materials and Methods

Description of the Site

The study was conducted at the psychiatric unit of Harare Central Hospital, a public referral hospital in Harare, Zimbabwe. The unit was purposively selected because it is a high-risk area on account of the nature of the patients it admits, and because it had operated under a formal OHS risk management plan since January 2017 whose effectiveness had not previously been evaluated.

Research Philosophy and Design

The study adopted a positivist research philosophy, which holds that knowledge is derived from observable, quantifiable phenomena and that the researcher remains independent of the subject under study [7]. A cross-sectional research design was employed, combining quantitative and qualitative approaches, on the basis that such a design permits the economical collection of substantial amounts of data at a single point in time while supporting the exploration of prevailing occupational hazards [8].

Population and Sampling

The target population comprised the 3,058 employees of Harare Hospital, narrowed to the psychiatric department because of its elevated risk profile. A sample of 50 employees was drawn using stratified random sampling, with respondents first grouped into four strata—senior management, middle management, supervisors and other employees—before simple random selection within each stratum. A sample of this size was considered adequate for generalisability, consistent with the recommendation that a sample should constitute at least 10% to 20% of the target population [9].

Data Collection Methods and Instruments

Primary data were collected using a self-administered questionnaire containing closed- and open-ended items covering behaviour, demographics, education, knowledge and attitudes towards the OHS risk management system, complemented by key informant interviews with the risk officer, senior nursing officer, infection control matron and human resources personnel. An observational tour of the psychiatric department premises was also conducted to independently verify reported hazards. Secondary data were extracted from hospital injury and assault records.

Validity, Reliability and Pilot Study

Validity was strengthened through the inclusion of both open- and closed-ended items covering all research objectives, while reliability was assessed using Cronbach's Alpha. A pilot study involving 10 questionnaires was administered to health workers within the psychiatric department who were subsequently excluded from the main study to minimise bias, and the instrument was refined on the basis of gaps identified during piloting.

Statistical Methods

Completed questionnaires were coded and analysed using descriptive statistics, with results presented as frequencies and percentages summarised in tables, bar graphs and pie charts to aid interpretation and decision-making by hospital authorities. Qualitative data obtained from interviews and case narratives were analysed thematically and used to triangulate and contextualise the quantitative findings.

Ethical Considerations

Ethical clearance and written consent to distribute questionnaires and conduct interviews were obtained from the Harare Central Hospital Research Committee. Participation was voluntary, confidentiality and anonymity of respondents were maintained throughout, and all secondary sources consulted were duly acknowledged.

Results

Of the 50 questionnaires distributed, 38 were returned, giving a response rate of 76%, which was considered adequate for statistically meaningful analysis.

Demographic Characteristics of Respondents

Seventy-one percent of respondents were female, consistent with the general predominance of women in the nursing profession. The majority of respondents (43%, corroborated by human resources records) were aged between 35 and 44 years, indicating that most staff fall within the most economically active age bracket. Forty-seven percent of respondents were married and 24% single. Sixty-one percent held a diploma qualification and 18% a degree, reflecting the hospital's policy of engaging only qualified personnel. Table 1 summarises the number of years respondents had served within the psychiatric department.

Table 1. Number of Years Respondents Had Served in the Psychiatric Department

Years of Service	Frequency	Percent	Cumulative Percent
1–5	4	11	11
6–10	6	16	27
11–15	15	39	66
16–20	8	21	87
Above 20	5	13	100

The table shows that 89% of respondents had worked within the psychiatric department for at least six years, and 73% for at least eleven years, suggesting a reasonably experienced workforce with ample opportunity to have encountered occupational hazards. Approximately 80% of respondents identified as Christian.

Awareness and Understanding of the Risk Management System

Regarding the existence of a risk management plan, 60% of respondents indicated no awareness of its existence, 21% were unsure, and only 18.4% confirmed that a plan was in place. This was despite key informant interviews confirming that a risk management system had existed since January 2017 but had not been fully implemented owing to limited staff training linked to financial constraints. Understanding of the risk management system was similarly low: 68.4% of respondents reported no understanding of the system and 26.3% were unsure, meaning that 95% of respondents cumulatively lacked knowledge of, or certainty about, the existence of the system.

Hazard awareness followed a comparable pattern, with 79% of respondents indicating they were unaware of any hazards in their workplace, 18% unsure, and only 3% confirming awareness. This contrasted with an observational tour of the premises, which identified hazards including unsafe trees, loose stones that could be used in violent incidents, uncovered gullies (linked to the death of a patient in February 2018), and cleaning materials left unattended in wards housing emotionally unstable patients. When asked about risks associated with mental health nursing specifically, 53% of respondents perceived no risk, 29% were unsure, and only 18% agreed that risk existed—findings consistent with the broader pattern of low hazard awareness.

Training and Knowledge on Occupational Health and Safety

Eighty-two percent of respondents indicated they had never received training on hazard identification, while 18.4% had. Seventy-four percent had received no training in occupational health and safety more broadly, 18% had, and 8% were unsure. Awareness of OHS protocols was particularly low, at 5%, with 84% of respondents indicating no awareness and 11% unsure. Sixty-six percent of respondents did not know the hierarchy of hazard controls, and only one respondent, out of those attempting the item, could correctly distinguish between a hazard and a risk. Sixty-nine percent of respondents were unsure whether a Safety, Health and Environment (SHE) officer existed within the department, a position which key informant interviews with the senior nursing officer confirmed did not exist. Table 2 summarises selected training- and knowledge-related indicators.

Table 2. Selected Indicators of OHS Training and Protocol Awareness (n = 38)

Indicator	Yes (%)	No (%)	Not Sure (%)
Received training on hazard/risk identification	18.4	82.0	0.0
Received training on OHS issues	18.0	74.0	8.0
Aware of OHS protocols	5.0	84.0	11.0
Aware of hierarchy of controls	31.0	66.0	4.0
Knowledge of handling violent patients per protocol	58.0	34.0	8.0

Compliance with Risk Management Protocols

On the question of whether Harare Hospital was complying with risk management protocols, 66% of respondents answered no, 13% yes, 13% indicated the protocols were non-existent, and 8% were unsure. Seventy-six percent disagreed that risk assessment was well implemented at the hospital, corroborated by key informant interviews confirming that the only risk assessment conducted related to tuberculosis infection control in medical wards, with no risk assessment ever conducted in the psychiatric department. Sixty-three percent of respondents disagreed that the risk management system had improved employee safety, and 58% disagreed that the hospital had correctly addressed OHS in the psychiatric unit. Only 18% of respondents reported having contributed to any risk assessment exercise. When asked who monitors risk management protocols, 60% of respondents identified the senior nursing officer, despite this responsibility formally resting with a risk officer drawn from hospital administration, again pointing to limited staff knowledge of the system's actual governance arrangements.

These quantitative findings were corroborated by documented incidents. Hospital records show a recurring pattern of assault-related injuries since January 2017. In one recorded case, a registered mental health nurse was bitten while administering medication to a resistant patient, occurring when the nurse-to-patient ratio was one to five rather than the prescribed one to one for acute patients. In a second case, a hospital was sued after a violent psychiatric patient was admitted to a general ward and assaulted a post-operative patient, allegedly owing to a failure to route the patient to the correct ward. A further incident on night duty in 2016 resulted in two nurses sustaining physical injuries while restraining a violent patient without adequate structural or procedural support, and with subsequent delays in accessing compensation through the National Social Security Authority.

Discussion

The results indicate that, despite the formal existence of an OHS risk management system at Harare Central Hospital's psychiatric unit since January 2017, its practical effectiveness is severely constrained by low staff awareness, inadequate training and weak enforcement. This addresses the first research question directly: mental health workers at Harare Hospital largely do not recognise the occupational hazards to which they are exposed, a finding at odds with the presence of an audit system reportedly in place, but one that is consistent with the view that a risk management system is only as effective as the extent to which it is communicated and understood by those it is meant to protect [10].

The second objective, evaluating staff knowledge of the OHS risk management system, was similarly answered in the negative: cumulative ignorance of, or uncertainty about, the system stood at 95% of respondents. This is consistent with the argument that there is a strong link between poor communication, inadequate training and poor occupational safety and health performance [10], and mirrors comparable studies elsewhere—for instance, research on risk management in the construction sector in Tennessee, United States, found that although 70% of respondents acknowledged the importance of risk management in predicting hazards, this recognition did not, by itself, translate into effective practice [11]. The low proportion of respondents (18.4%) who had received formal training corroborates the view that adequate knowledge of mental health concerns and applicable theories, acquired through continuous training, is a prerequisite for health workers in psychiatric settings [12].

With respect to compliance, the third objective, findings showed that 66% of respondents believed the hospital was not complying with its own risk management protocols, and 76% did not believe risk assessment had been properly implemented. This is broadly consistent with the observation that hospitals with well-designed and consistently applied health and safety management systems are less likely to experience work-related accidents [13], implying, by extension, that the documented pattern of assaults at Harare Hospital's psychiatric unit is at least partly attributable to weak compliance rather than an absence of policy on paper. The historical case of a patient death by suicide within the department, linked to a failure to enforce protocols on personal effects, further underscores that lapses in compliance are not a recent phenomenon but a longstanding institutional weakness.

Taken together, these findings suggest that the psychiatric unit's challenges stem less from the absence of a risk management framework than from deficiencies in its operationalisation: the lack of a dedicated Safety, Health and Environment officer, insufficient induction and refresher training, and unclear lines of accountability for monitoring compliance. Further research would benefit from a comparative assessment across other psychiatric referral units in Zimbabwe, such as Ingutsheni and Parirenyatwa hospitals, to determine whether these findings reflect an institution-specific weakness or a broader systemic gap in mental health OHS governance.

Conclusion

This study set out to analyse the effectiveness of the occupational health and safety risk management system at the psychiatric unit of Harare Central Hospital. The evidence gathered demonstrates that although a risk management plan has existed since January 2017, it has not been effectively communicated, understood, resourced or enforced. The majority of health workers lack awareness of the system, have received little or no training in hazard identification and hierarchy of controls, and perceive the hospital as non-compliant with its own protocols. These gaps are corroborated by a documented pattern of assault-related injuries to staff. The study concludes that the OHS risk management system at Harare

Central Hospital's psychiatric unit is, in its current state, largely ineffective in protecting health workers from occupational hazards.

To close these gaps, it is recommended that the hospital institute mandatory induction and continuous refresher training on hazard identification and risk management protocols; appoint a dedicated Safety, Health and Environment officer for the psychiatric unit; establish a hospital-level risk management committee to oversee periodic risk assessments; engage professional landscaping services to eliminate physical hazards identified on the premises; and strengthen communication of the risk management system to all cadres of staff. At a policy level, the Ministry of Health and Child Care and the National Social Security Authority should consider developing an auditable and certifiable OHS risk management framework specific to psychiatric care settings, given the distinct hazard profile of this environment relative to general hospital wards.

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