Factors associated with the use of seclusion in an inpatient psychiatric unit in Lilongwe, Malawi

Brian S. Barnett1,2,3, Veronica Kusunzi4, Lucy Magola4, Christina P.C. Borba5, Michael Udedi6,7, Kazione Kulisewa4, Mina C. Hosseinipour3

1. Department of Psychiatry, McLean Hospital; Department of Psychiatry, Harvard Medical School, Boston, USA
2. Vanderbilt University School of Medicine, Nashville, USA
3. University of North Carolina Project, Lilongwe, Malawi
4. Bwaila Psychiatric Unit, Kamuzu Central Hospital, Malawi
5. Department of Psychiatry, Boston Medical Center; Boston, University School of Medicine, 72 East Concord St, Boston, USA.
6. Ministry of Health, Lilongwe, Malawi
7. Department of Mental Health, College of Medicine, University of Malawi, Blantyre, Malawi

Abstract

Background
Data on the use of seclusion for psychiatric inpatients in sub-Saharan Africa are extremely limited. Though seclusion is sometimes necessary for patients that pose a threat to themselves or others, adverse physical and psychological sequelae from the experience are increasingly being recognized, leading to efforts to reduce its use. The purpose of this study was to calculate the frequency of seclusion in patients hospitalized in an inpatient psychiatric unit in Lilongwe, Malawi, and to identify factors associated with its use.

Methods
Records of 419 psychiatric inpatients hospitalized at Kamuzu Central Hospital's Bwaila Psychiatric Unit in Lilongwe, Malawi, from January 1, 2011 to December 31, 2011, were reviewed. Multivariate logistic regression analysis was employed to identify factors associated with the use of seclusion.

Results
Seclusion was used for 30.3% (127/419) of patients during the study period. Male patients had increased odds of being secluded (aOR: 2.22, p=0.02). Assaulting other patients on the unit (aOR 7.92, p<0.01) and presenting to the unit in mechanical restraints (aOR 2.33, p<0.01) were also associated with seclusion. There was no association between seclusion and age; diagnosis of alcohol use disorder, marijuana use disorder, or schizophrenia; involuntary admission; presence of extra pyramidal side effects; presence of hallucinations; suicidality; or commission of violent acts prior to admission.

Conclusions
Documentation about the rationale for the use of seclusion on the unit was minimal. Improved record keeping requirements will be essential to future efforts to study seclusion and reduce its use. Development of strategies to address patient violence on the unit could decrease the use of seclusion for aggressive patients. Patients arriving to the unit in restraints would benefit from increased efforts by staff to apply behavioural interventions or administer medications, in order to deescalate these individuals and limit the use of seclusion in their treatment.

Key words: sub-Saharan Africa, Malawi, mental disorders, mental health, psychiatry, seclusion

Introduction
Seclusion is the act of involuntarily confining a patient to a room where they are unable to exit. It is a commonly used coercive measure in psychiatric units around the world. Other coercive measures available to treatment teams, depending on where they practice, include physical restraint (holding a patient and restricting their movement), mechanical restraint (using belts or other devices to restrict patient movement) and chemical restraint (using involuntary medications to calm or sedate a patient). This paper focuses on the use of seclusion, though other coercive measures will also be mentioned, since many studies have looked at the use of coercive measures collectively and not focused solely on seclusion. Coercive measures are not considered therapeutic modalities by professional organizations or according to government regulations1. Therefore, these interventions should only be utilized when emergency situations arise in order to prevent patients from harming themselves, harming other patients or staff, or absconding from a treatment facility. According to one study, the most common reasons for use of seclusion, in descending order, are risk of harm to others, risk of harm to self and risk of abscondment2. Behavioural interventions or voluntary medications should be offered to patients prior to the use of coercive measures, though these interventions are often not sufficient.

While coercive measures are usually required for purposes of maintaining safety, injuries can occur to both patients and staff when they are applied1. In addition to physical injuries, coercive measures have been shown to cause emotional trauma for both patients receiving them and staff members applying them1-7. Therefore, providers should use the least restrictive coercive measure that will allow them to safely manage a clinical situation in order to maximize patient liberty. When emergency situations arise, patients prefer receiving medications to seclusion and they prefer seclusion to mechanical restraint8. Patients often report that coercive measures are used to enforce discipline, or as a therapeutic modality, rather than for emergency purposes only1. These reports are probably due to a combination of perceptual differences between providers and patients, but also likely reflect misuse of coercive measures in many institutions. Even when appropriately used, there is concern that using repeated coercive measures on inpatients may make it difficult for them to learn skills required to manage distress.
in the community in a healthy manner. Nearly all providers agree that patients recall the use of coercive measures and that they may be associated with physical or psychological harm. Due to these concerns, there has been an increased focus worldwide on reducing the use of coercive measures in recent years. In many countries, coercive measures are now only legally used during the provision of medical treatment in an emergency or when it is otherwise not possible to obtain patient consent. These changes have led to a decrease in the use of such measures, and more recent studies have shown that patient assaults and monthly seclusion rates increased over a five year period. Despite its classification as a tertiary psychiatric unit, BPU lacks many of the resources that would be expected to come with such a designation. BPU is the psychiatric unit, which is located on the grounds of Bwaila District Hospital. BPU is a satellite unit of the tertiary level Kamuzu Central Hospital. Treatment for patients at BPU is limited to almost entirely psychopharmacologic interventions. During the study period, medication options at BPU were much more limited than at the country’s other facilities, with antipsychotics being constrained to only first generation type. BPU is also less adequately staffed than the other psychiatric facilities, which creates further challenges in delivering care.

During the study period, staff at BPU had not received aggression management training. However, since the study concluded, staff members have participated in trainings on violence prevention. In addition, patients at BPU with behavioural difficulties that are not responsive to redirection by staff are typically offered voluntary oral medications. If they decline these, their behavioural dysregulation is managed through the use of chemical restraint, with involuntary intramuscular or intravenous administration of medications, or involuntary seclusion, rather than physical or mechanical restraint. Due to medication shortages, chemical restraint is often not a treatment option. A patient refuses to enter the seclusion room on their own, nurses and patient attendants will hold the patient and move them into the room. Once in seclusion, patients are typically observed at meal times, medication administration times and during staff handover periods. Patients are released from seclusion once they are evaluated and appear to no longer be at imminent risk of harming themselves or others.

Malawi’s Mental Treatment Act (Chapter 34:02) of 19488, which provides the legal framework for mental health treatment within the country, does not address seclusion or dictate regulatory requirements surrounding its use. The Malawi Mental Health Bill 200410 included the following proposed seclusion regulations: Seclusion and restraint should only be utilized in exceptional cases to prevent immediate danger or imminent harm to self or others. The maximum duration of seclusion is limited to 48 hours. There is no known studies which address the use of seclusion in Malawi. Towards that end, we sought to quantify the use of seclusion and identify factors associated with its use in an inpatient psychiatric unit in Lilongwe, Malawi.

Methods

Study setting

The study was conducted at Bwaila Psychiatric Unit (BPU), which is located on the grounds of Bwaila District Hospital. BPU is a satellite unit of the tertiary level Kamuzu Central Hospital. Located in Malawi’s capital and largest city, Lilongwe, BPU is designated as a tertiary level psychiatric unit by the Ministry of Health and has a catchment area that includes the nine Central Regions of Malawi’s 28 administrative districts. Despite its classification as a tertiary psychiatric unit, BPU lacks many of the resources that would be expected to come with such a designation. BPU is the smallest of Malawi’s psychiatric facilities and has 25 beds, which are divided into a male unit (14 beds) and a female unit (11 beds). It frequently operates above the intended capacity, averaging approximately forty admissions at any point. The male and female wards have four single rooms each, which can be locked from the outside and are sometimes used for involuntary seclusion, and admissions are made and housed on the same units. Like the other psychiatric units in Malawi, BPU primarily treats patients who are involuntarily hospitalized. Malawi’s other tertiary psychiatric facilities are Zomba Mental Hospital, a 400-bed facility in the southern part of the country and has 39 beds; and St. John of God Community Services, a 50 bed unit in Lilongwe, opened after the study period. Care at BPU is administered through Malawi’s government health system and during the study period care was provided by two registered psychiatric nurses, who had undertaken a degree course in psychiatric care at St. John of God College of Health Sciences in Zomba. In addition to caring for the inpatient population, nurses also admitted patients daily. There were no mental health clinicians based at BPU during the study period, but the nurses received periodic supervision from mental health clinicians based at Zomba Mental Hospital. Treatment for patients at BPU is limited to almost entirely psychopharmacologic interventions. During the study period, medication options at BPU were much more limited than at the country’s other facilities, with antipsychotics being constrained to only first generation type. BPU is also less adequately staffed than the other psychiatric facilities, which creates further challenges in delivering care.

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Table 1: Patient demographic information

| Patient variable | n (%) |
|------------------|-------|
| Gender (N=44)    |       |
| Male             | 302 (69.3) |
| Female           | 132 (30.7) |
| Marital status   |        |
| Married          | 226 (65.8) |
| Single           | 116 (34.2) |
| Living situation |        |
| With partner     | 194 (56.0) |
| With others      | 108 (30.9) |
| None             | 58 (16.2) |
| Education (N=25) |       |
| None             | 12 (4.7) |
| Completed Standard or less than High School | 131 (52.0) |
| Completed High School or IV | 103 (41.0) |
| Employment type  |        |
| No formal employment | 102 (32.1) |
| Farmer           | 60 (18.9) |
| Laborer          | 43 (13.5) |
| Vending          | 37 (11.6) |
| Student          | 42 (12.3) |
| Other            | 48 (13.9) |
| Religion (N=283) |       |
| Christian        | 216 (76.5) |
| Muslim           | 22 (6.3) |
| Unknown          | 50 (17.4) |
| Existing psychiatric diagnosis (N=356) | |
| No               | 246 (69.1) |
| Yes              | 131 (35.9) |
| P r e v i o u sly hospitalized (N=947) | |
| No               | 106 (56.5) |
| Yes              | 151 (43.5) |
| P s y c h i a t r i c diagnoses* (N=441) | |
| Schizophrenia    | 126 (30.1) |
| Cannabis use disorder | 117 (27.9) |
| Alcohol use disorder | 105 (24.1) |
| Eating disorders  | 30 (7.2) |
| Major depressive disorder | 28 (6.7) |
| Other            | 59 (13.4) |

*Percentage sums to greater than 100 due to some patients having multiple diagnoses.

Results

The study population was 73.0% male (303/415) and the mean age was 29.6 ± 9.5 years old (range: 10-74). The mean length of hospitalization on the unit was 28.1 ± 28.1 days (range: 0-214). Further demographic information is described in table 1.

The predominant diagnoses were schizophrenia (50.3%,

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Seclusion of psychiatric inpatients

The seclusion of psychiatric inpatients has been a topic of concern for mental health professionals and policymakers. In the Malawi Medical Journal, a study was published discussing the seclusion rates and factors associated with seclusion in a psychiatric unit.

### Factors Associated with Seclusion

The study found that seclusion was associated with several factors, including:

- **Suicidality reported at admission**: Patients who reported suicidality at admission were more likely to be secluded.
- **Hallucinations of any type**: Patients with hallucinations were more likely to be secluded.
- **Diagnosis of schizophrenia**: Patients with a diagnosis of schizophrenia were more likely to be secluded.
- **Violent past**: Patients with a history of violence were more likely to be secluded.
- **Use of sedative drugs**: Patients who were prescribed sedative drugs were more likely to be secluded.

### Discussion

The study highlighted the importance of understanding the factors associated with seclusion to improve patient care and reduce the use of coercive measures. The authors recommended further research to explore interventions that can reduce seclusion rates.

### Conclusion

This study contributes to the growing body of research on seclusion in psychiatric units, emphasizing the need for evidence-based interventions to improve patient safety and reduce the use of coercive measures.
Seclusion of psychiatric inpatients

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