ORIGINAL RESEARCH

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

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Date Received: 04-Oct-2017
Revision Received: 07-May-2018
Date Accepted: 14-May-2018

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https://dx.doi.org/10.4314/mmj.v30i3.12

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 regulations[1]. 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 abscondment[2]. 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 applied[1]. In addition to physical injuries, coercive measures have been shown to cause emotional trauma for both patients receiving them and staff members applying them[3–7]. 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 restraint[8]. Patients often report that coercive measures are used to enforce discipline, or as a therapeutic modality, rather than for emergency purposes only[1]. 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[9]. Nearly all providers agree that patients recall the use of coercive measures and that they experience adverse effects from their use[10]. Due to these concerns, there has been an increased focus worldwide on decreasing the use of coercive measures in recent years[11]. In many countries, coercive measures are now only legally used under the supervision of a physician and can only be employed in extreme circumstances[12]. Such laws can lead to substantial decreases in the amount of time patients spend in restraint and seclusion[1]. The frequency of seclusion varies widely among countries and even among hospitals within countries[1,13]. Recent studies of adult psychiatric inpatients in Australia, Europe and North America have demonstrated seclusion rates varying from 23% to 35%.[2,14,15] Use of seclusion has been associated with the following patient factors: younger age[2,15–17], borderline personality disorder[15,16], bipolar disorder[15], involuntary treatment status[2,17,18], longer length of stay[15], higher levels of psychological impairment[18], higher levels of uncooperativeness[18], and schizophrenia[2,15]/psychosis[13,15]. Patients that are earlier on in their hospitalization are also more likely to be secluded[17], as well as those who have already been restrained during their hospitalization[17]. Preceding behaviours, such as shouting[17] on the unit, are also associated with higher likelihood of seclusion. Higher rates of seclusion are also associated with facility factors including staff gender, education level and clinical experience, as well as low staffing, patient overcrowding and transition times on the unit[1]. Research on the use of seclusion in Africa is minimal. A 1998 study of inpatients in Zimbabwe revealed that 8.5% of psychiatric inpatients were secluded or restrained during their hospitalization[19]. A large majority of those individuals were 35 years of age or younger. A 2013 South Africa study showed that male inpatients committed more patient assaults and were more likely to be secluded than females. While that study did not report the percentage of patients who were secluded during hospitalization, it did show that monthly inpatient assaults and monthly seclusion rates increased over a five year period[20]. There are 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 Region districts 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 its 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. Both children and adults are admitted 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; St. John of God House of Hospitality in Mzuzu, which serves the northern part of the country and has 39 beds; and St. John of God Community Services, a 50 bed unit in Lilongwe, which 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 training course in psychiatric care at St. John of God College of Health Sciences in Mzuzu, and several enrolled psychiatric nurses, who had undertaken a diploma training course in psychiatric care at Malawi College of Health Sciences in Zomba. In addition to caring for the inpatient population, the nurses also saw outpatients daily. There were no mental health clinicians based at BPU during the study period, but the nurses received periodic supervision from mental health clinical officers and a psychiatrist 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.[21] 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 facilitated by staff from Zomba Mental Hospital. 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 either 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 realistic possibility. If 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 1948[22], 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 of 2004[23] 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 should be six hours. 15 minute observations by staff are required once seclusion has been initiated. The use of seclusion must be documented in a register and must include reasons for seclusion and the duration. Seclusion rooms must be well ventilated and have sufficient light. A centralized review body will receive periodic reports of all secluded patients. However, this bill was not passed into law, so the use of seclusion in Malawi remains unregulated. There is no formal protocol at BPU

delineating who can order seclusion, indications for seclusion, interventions to use prior to considering seclusion, duration of seclusion, how frequently secluded patients should be assessed, or when to release patients from seclusion. If patients are secluded, this fact is typically recorded in charts, though information regarding who ordered the seclusion, reasons for seclusion, duration of seclusion or number of seclusions per admission is not usually included.

Study design

We conducted a retrospective review of charts for patients who were hospitalized at BPU from January 1st through December 31st, 2011. Rather than calculating a required sample size for our analysis before the study initiation, we chose to evaluate the unit population over a one-year period of time. Data including socio-demographic characteristics (age, gender, living situation, marital status, etc.), diagnoses, patient behaviours (suicidal ideation, suicide attempts, homicidal ideation, assault of other patients, etc.), length of stay, and outcomes were extracted. Diagnoses were recorded as they were written in the chart and were based upon criteria in the International Statistical Classification of Mental and Behavioural Disorders, 10th revision.[24] Study data were collected and managed using REDCap electronic data capture tools hosted at Vanderbilt University.[25] Charts were written in English by nursing staff and ranged in detail from half a page of handwritten information to more than ten pages, with the average chart length being approximately five pages.

Data analysis

During the study period, chart documentation was available for 419 patients. There were 29 patients readmitted during the study period for a total of 33 times. For patients who were readmitted, data from only one admission were used in statistical modelling to prevent duplication of data and to maintain independence of observations. These data usually came from the first admission during the study period. However, for patients that were secluded, data from the admission in which seclusion occurred were used in statistical modelling. One patient was secluded in his initial admission and readmission. For this individual, data from the initial admission were utilized. Due to missing data, the total sample size was less than 419 for many variables that were assessed. All statistical analyses were conducted using Stata® version 12.0 (Stata Corporation, College Station, Texas, USA).

Bivariate testing of patient variables and seclusion was conducted using Student's t-test (two sided) for continuous variables and Pearson's chi-squared test for categorical variables. Multiple logistic regression was used to test for associations between patient variables and seclusion. Independent variables were chosen based on the findings of previous research and clinical relevance. The model was checked to ensure that assumptions of logistic regression were met. Pearson goodness of fit testing of the model produced a Chi-squared test statistic of 342.33 and a p-value of 0.26, indicating sufficient goodness of fit. Statistical significance for all tests was declared at a p-value of <0.05.

Ethical approval

The study proposal was approved by the Malawi National Health Science Research Committee and the University of North Carolina, Chapel Hill Institutional Review Board.

Table 1: Patient demographic information

Patient variable		n, (%)
Gender (N=414)		
	Male	302 (73.0)
	Female	112 (27.0)
Marital status (N=372)		
	Married	116 (31.2)
	Single	256 (68.8)
Living situation (N=188)		
	With partner	94 (50.0)
	With others	78 (41.5)
	Alone	16 (8.5)
Education (N=257)		
	None	12 (4.7)
	Completed Standard 8 or less	131 (51.0)
	Completed Form I, II, III or IV	103 (40.1)
	Any university	11 (4.3)
Employment type (N=318)		
	No formal employment	102 (32.1)
	Farmer	60 (18.9)
	Laborer	43 (13.5)
	Vendor	37 (11.6)
	Student	34 (10.7)
	Other	42 (13.2)
Religion (N=359)		
	Christian	279 (77.7)
	Muslim	22 (6.1)
	Other	58 (16.2)
Existing psychiatric diagnosis (N=381)		
	Yes	248 (65.1)
	No	133 (34.9)
Previously hospitalized (N=347)		
	Yes	196 (56.5)
	No	151 (43.5)
Psychiatric diagnoses* (N=419)		
	Schizophrenia	126 (30.1)
	Cannabis use disorder	117 (27.9)
	Alcohol use disorder	105 (25.1)
	Epileptic psychosis	30 (7.2)
	Major depressive disorder	28 (6.7)
	Other	59 (14.1)

***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 22.2 ± 28.1 days (range: 1-243). Further demographic information is described in table 1.

The predominant diagnoses were schizophrenia (30.1%,

126/419), cannabis use disorder (27.9%, 117/419), and alcohol use disorder (25.1%, 105/419). About a third (31.6%, 130/411) of patients were brought to the unit in mechanical restraints (either handcuffs placed by police or makeshift devices created by family or community members) due to behavioural dysregulation. Most patients (72.1%, 302/419) had committed a violent act prior to admission, which was defined as assaulting a person, assaulting or killing an animal, setting a fire or destroying property. Suicidal ideation was reported by 4.8% (20/416) of patients and 2.4% (10/414) reported a suicide attempt prior to admission. Homicidal ideation was reported by 7.3% (30/414) of patients and 5.6% (23/414) of patients assaulted another patient while on the unit. While most patients were stabilized and discharged (68.0%, 243/416) or transferred to other psychiatric or medical facilities (19.5%, 81/416), 8.2% (34/416) were discharged against medical advice, 3.4% (14/416) absconded and 1.0% (4/416) died. This patient population has been previously described in further detail in another publication by our group.[26] Including only the initial admission during the study period, 29.2% (121/419) of patients were secluded. A small number of patients were not secluded in their initial admissions but were secluded during a readmission in the study period. When these patients are combined with patients secluded during the initial admission, 30.3% (127/419) of patients were secluded during the study period. On bivariate analysis (table 2), four factors were associated with seclusion: younger age (p=0.04), assaulting other patients on the unit (p<0.01), male gender (p<0.01), and being mechanically restrained when presenting for admission (p<0.01). However, on multivariate analysis (table 3), only three factors were associated with seclusion: assaulting other patients on the unit (aOR: 7.92, p<0.01), male gender (aOR: 2.22, p=0.02), and being mechanically restrained when presenting

Table 2: Bivariate analysis of patient variables and seclusion

Variables	Whole sample % (n/N)*	Secluded % (n/N)*	Not secluded % (n/N)*	P-value
Age [in years] (n=395)	29.6 ± 9.5	28.1 ± 7.4	30.2 ± 10.2	0.04
Assault on other patients	5.6 (23/414)	12.8 (16/125)	2.4 (7/289)	<0.01
Diagnosis of alcohol use disorder	25.1 (105/419)	27.6 (35/127)	24.0 (70/292)	0.44
Diagnosis of marijuana use disorder	27.9 (117/419)	33.9 (43/127)	25.3 (74/292)	0.07
Diagnosis of schizophrenia	30.1 (126/419)	25.2 (32/127)	32.2 (94/292)	0.15
Extrapyramidal side effects present	13.2 (55/418)	10.2 (13/127)	14.4 (42/291)	0.24
Hallucinations of any type	21.1 (87/413)	21.0 (26/124)	21.1 (61/289)	0.98
Involuntary admission	94.2 (386/410)	93.6 (116/124)	94.4 (270/286)	0.73
Male gender	73.0 (302/414)	83.2 (104/125)	68.5 (198/289)	<0.01
Mechanically restrained upon admission	31.6 (130/411)	44.4 (55/124)	26.1 (75/287)	<0.01
Suicidality reported at admission	4.8 (20/416)	7.9 (10/126)	3.5 (10/290)	0.05
Violent acts/physical aggression prior to admission	72.1 (302/419)	74.0 (94/127)	71.2 (208/292)	0.56

***Total number of patients per variable varies slightly due to missing data.**

Table 3: Multiple logistic regression of patient variables and seclusion

Variables	Coefficient (S.E.)	Odds ratio (95% CI)	P-value
Age	-0.02 (0.01)	0.98 (0.96-1.01)	0.23
Assault on other patients during admission	2.07 (0.53)	7.92 (2.82-22.18)	<0.01
Diagnosis of alcohol use disorder	-0.11 (0.31)	0.89 (0.48-1.65)	0.72
Diagnosis of marijuana use disorder	0.14 (0.32)	1.16 (0.61-2.17)	0.65
Diagnosis of schizophrenia	-0.40 (0.31)	0.67 (0.37-1.23)	0.20
Extrapyramidal side effects during admission	-0.39 (0.38)	0.67 (0.32-1.43)	0.30
Hallucinations of any type	0.15 (0.29)	1.16 (0.65-2.07)	0.61
Involuntary admission	-0.31 (0.55)	0.74 (0.25-2.15)	0.58
Male gender	0.80 (0.33)	2.22 (1.15-4.27)	0.02
Mechanically restrained upon admission	0.85 (0.25)	2.33 (1.43-3.82)	<0.01
Suicidality reported at admission	0.93 (0.54)	2.53 (0.87-7.31)	0.09
Violent acts/physical aggression prior to admission	0.06 (0.30)	1.06 (0.60-1.90)	0.84
Constant for statistical model	-1.09 (0.68)	0.34 (0.09-1.28)	0.11

for admission (aOR 2.33, p<0.01).

Discussion

This one-year study of a cohort of Malawian psychiatric inpatients revealed that 30.3% of patients were secluded and demonstrated three patient factors associated with the use of seclusion: male gender, arriving to the facility in mechanical restraints, and assaulting other patients on the unit. These findings indicate two possible areas for intervention to reduce the use of seclusion: implementation of strategies to reduce patient violence and increased efforts to ensure that staff members thoughtfully assess the need for seclusion in patients arriving in restraints.

The frequency of seclusion at BPU is similar to that reported in developed countries, which ranges from 23% to 35%.[2,14,15] The only known study reporting a frequency for the use of coercive measures in sub-Saharan Africa was conducted in Harare, Zimbabwe in 1998 and found that 8.5% of psychiatric inpatients were secluded or restrained.[19] One factor that might have accounted for the decreased use of seclusion in that study is more scrutiny of the use of coercive measures secondary to Zimbabwe's Mental Health Act, which was passed in 1996.[27] The law requires that coercive measures only be used upon the order of the superintendent of an institution. A daily register detailing reasons for use of coercive measures and the duration of those measures is also required. A copy of this register must then be submitted to the Ministry of Health and Child Care on a quarterly basis. Changes to legal policies[28] focusing on who can order seclusion, what its indications are, and how long/often it can be used, have been instrumental to decreasing the use of coercive measures around the world. Given that Malawi has no legal requirements for the use of coercive measures, legislative efforts to implement such requirements may dramatically decrease their use.

Assaulting other patients was the factor within our study population that most increased risk of seclusion. At least 5.6% of patients committed acts of violence on the unit during the study period. Given the unit's limited recordkeeping, the actual percentage may be significantly higher. Therefore, efforts to decrease violence on the unit are essential to protecting patients and staff members, as well as decreasing the amount of time spent in seclusion by perpetrators. A recent comprehensive review demonstrated that 17% of patients will commit at least one act of violence on an inpatient psychiatric unit.[29] A study of aggressive episodes in an Irish psychiatric unit found that triggers for violence were not observed 63% of the time, while 21% of episodes occurred following denial of patient requests by staff, 11% occurred due to provocation by another patient, and 4% occurred after staff asked the patient to take a medication.[30] In that study, aggression was aimed at ward staff 63% of time, at other patients 36% of time, and was self-directed 2% of the time.

Research on inpatient violence in African psychiatric units has been minimal, with a South African study of long term psychiatric patients demonstrating that 16% of patients were violent on the unit and that physical aggression between patients accounted for 58% of violent incidents.[31] Risks factors for violence in that study included lack of disorganized behaviour, longer stay, mental retardation, first hospitalization before age 40, and habitual verbal aggression.[31] No association was found between gender and violence in that study. However, another study of psychiatric inpatients in South Africa over a five year period found that patient assaults were more likely to be carried out by men, and that men were also more likely to be secluded.[20] However, a study from Zimbabwe demonstrated that females were more assaultive towards other patients and staff than male patients.[19] A Nigerian study revealed that half of staff members working on a psychiatric unit had been assaulted by a patient at least once.[32]

Studies of inpatient psychiatric unit violence in the developed world have found associations with the following patient factors: involuntary treatment status[29,33], diagnosis of alcohol use disorder[29], past violent behaviour[33–35], verbal or physical aggression against people or objects in the month prior to admission[35], antisocial personality disorder[33], borderline personality disorder[33], past self harm[33], and substance abuse.[33] Unit factors associated with violence include frequent medication changes[33], increased use of sedative drugs[33], and long hospitalization.[33] One review also noted associations between violence and several staff factors including staff member age, length of work experience, and whether staff members had received training in the prevention and management of patient assaults.[34]

Given the dearth of research on inpatient violence and use of seclusion in developing countries in sub-Saharan Africa and elsewhere, it is difficult to make comparisons with developed countries about rates of inpatient violence and seclusion, as well as associated factors. Variations in patient populations may partially account for differences in inpatient violence and seclusion in developed and developing countries. For example, involuntary status has been associated with both inpatient violence and use of seclusion in developed countries. We found no association with seclusion and involuntary status. This might be explained by the high level of patients who were involuntary hospitalized at BPU (94.2%) compared to 5-30% in developed countries.[36] There are also differences in our population and inpatient populations in developed countries in terms of diagnostic composition. While schizophrenia, cannabis use disorder and alcohol use disorder were the most common diagnoses at BPU, in developed countries mood disorders are typically the most common diagnoses on inpatient units and anxiety disorders are also much more prevalent.[37,38]

It is unclear why patients in our study who arrived in mechanical restraints were more likely to be secluded. Because circumstances of seclusion were not recorded in patient charts, we can only speculate about why this may be. Patients arriving in restraints may be more likely to behave in a manner that increases their likelihood of seclusion, or it may have been possible that staff simply secluded these individuals upon arrival due to concern that they would act aggressively because they were already in restraints, which would not be appropriate use of seclusion. Staff may also have been more likely to seclude these patients since they may have also been more likely to attempt to abscond, which is a challenge for the unit, as 3.4% of patients absconded during the study period.

Overall, the lack of record keeping requirements makes the study of seclusion in Malawi a challenge. Standardized seclusion reporting methods in numerous countries have improved information gathering about seclusion and improved research efforts to reduce its use.[1,28] Patients in Malawi would benefit from required documentation of seclusion that details the incident leading up to seclusion,

the indication for seclusion, the amount of time spent in seclusion and efforts used to prevent the use of seclusion, such as offering voluntary medications or employing behavioral interventions.[39]

Decreasing the use of seclusion often requires a multi-faceted approach that employs policy modifications, as well as interventions implemented at the unit level. Staff members are more likely to use seclusion if they perceive that workplace safety measures on the unit are inadequate, while they are less likely to use seclusion if they perceive that there is a higher level of order and organization among unit staff.[40] Efforts to educate staff on how to identify impending violence, how to use verbal de-escalation techniques, and how to divert patients' attention when they are agitated are especially useful for decreasing seclusion. Changing staff-patient assignments regularly, so that staff members alternate between caring for patients with severe illness and caring for those with milder illness, can also lead to decreased use of coercive measures.[28]

Strategies to systematize the decision-making process for using seclusion are also important, since there is often much disagreement among staff about when to actually use seclusion.[1] Those with less experience are more likely to suggest secluding patients[1], so it is essential to include veteran providers in the decision making process. Team-based decision making efforts are preferable, since one study demonstrated that some staff members are consistently appointed to make coercive measure decisions, which can lead to increased use if there are no checks provided by other individuals.[41] Furthermore, misconceptions among staff may exist about when coercive measures are indicated[42] and can increase their use, so staff knowledge should be assessed and deficiencies corrected.

Research on reducing the use of seclusion has found a variety of other potential tactics for psychiatric units to employ. One prospective, randomized study found that making inexpensive changes to a unit's physical environment, along with holding regular staff-patient group meetings on the unit, reduced the use of seclusion and restraint by 82%.[43] Another study found that regular review of cases where coercive measures were used, and the development of targeted treatment plans for secluded patients, resulted in a 75% reduction in the use of coercive measures by the end of the five year study period.[9] Patients have also suggested that in order to reduce the use of coercive measures, that nurses speak to them in a calm voice, sincerely listen to their concerns, allow them to participate in the decision-making process for their treatment and provide them with meaningful activities to pass the time.[39] A randomized controlled trial demonstrated that administering involuntary psychiatric medications to patients who were at risk of harm to themselves or others decreased their risk of being secluded. However, it did not decrease the duration of seclusion incidents when they occurred or the total number of coercive incidents.[44] Another study found that focusing on early recognition of agitation and intervening quickly, once it is observed, resulted in a 52% decrease in seclusion and restraint.[45] However, that study also found that assaults on staff and other patients increased dramatically, indicating the importance of cautious approaches to reducing the use of coercive measures.[45]

Patients within Malawi's mental healthcare system would benefit from further research investigating both patient-related and staff-related factors in the use of seclusion. Given the lack of documentation requirements concerning the use of seclusion, future studies would be most useful if they were conducted in a prospective manner to avoid problems with missing data. Additionally, for a better understanding of the use of seclusion throughout the country, future studies would be most useful if they included a representative sample of patients from all of the country's inpatient psychiatric facilities.

Limitations

The lack of documentation requirements concerning seclusion in Malawi is the primary limitation of our study, along with its retrospective design and resultant missing data. Consequently, it is possible that the frequency of seclusion and violence in this cohort may have been underreported. There is also concern about the validity of patient diagnoses, given the lack of patients admitted for primary affective disorders or affective psychoses. There is also a limitation in terms of the generalizability of the data collected at BPU to the rest of Malawi. BPU is less well staffed than the country's other psychiatric facilities and employed no clinical officers or psychiatrists during the study period. It also had more limited medication options, as well as medication shortages during that time. Therefore, it is possible that seclusion rates at the other facilities might differ significantly from that of BPU.

Conclusion

As in other psychiatric facilities around the world, seclusion is commonly used at BPU. Male gender, arriving to the unit in mechanical restraints, and assaulting other patients are patient factors associated with increased risk of seclusion at BPU. Patients at BPU and throughout Malawi would benefit from the development of legal policies to direct the use of seclusion and associated documentation requirements. Improved documentation would provide rationale about the use of seclusion and better inform strategies to reduce its use. Staff education about appropriate use of seclusion and efforts to create a standardized, team-based decision-making process for the use of seclusion may also prove helpful in reducing its utilization. Finally, efforts to identify and de-escalate patient agitation as early as possible, through the use of behavioural interventions or voluntary medications, would also likely decrease the use of seclusion. However, any efforts to reduce its use should also ensure that there are no increases in violence against staff members or other patients as a result.

Acknowledgements

This work was supported by funding from the University of North Carolina Center for AIDS Research, a National Institutes of Health (NIH) funded program (grant P30 AI50410). CPCB was supported by a National Institute of Mental Health career development grant (K01MH100428). KK was supported by an NIH international research training grant (D43 TW010060). BSB was the recipient of a Fulbright-Fogarty Fellowship in Public Health (2011-12), sponsored through a partnership between the Fulbright program and the NIH through the Fogarty International Clinical Research Scholars and Fellows Program at Vanderbilt University (grant R24 TW007988). MU was supported by funding from the African Mental Health Research Initiative (grant DEL-15-01).

We thank the administration, patients and staff of BPU for their assistance with this investigation. We would also like to

thank Laura Ball and Travis Tressler for their assistance with data entry.

Conflict of interest

The authors have no conflicts of interest to report.

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