



## Relationship between the use of seclusion and mechanical restraint and the nurse-bed ratio in psychiatric wards in Japan



Maiko Fukasawa<sup>a,\*</sup>, Michi Miyake<sup>a</sup>, Yuriko Suzuki<sup>a</sup>, Yusuke Fukuda<sup>b</sup>, Yoshio Yamanouchi<sup>a</sup>

<sup>a</sup> Department of Mental Health Policy, National Institute of Mental Health, National Center of Neurology and Psychiatry, 4-1-1 Ogawa-higashi, Kodaira, Tokyo 187-8553, Japan

<sup>b</sup> Health Service Bureau, Ministry of Health, Labour and Welfare, 1-2-2 Kasumigaseki, Chiyoda-ku, Tokyo 100-8916, Japan

### ARTICLE INFO

#### Keywords:

Seclusion  
Mechanical restraint  
Nurses  
Psychiatric wards

### ABSTRACT

The relationship between the number of nurses in psychiatric wards and frequency of use of seclusion and restraint has been unclear. We aimed to clarify this relationship in Japanese general psychiatric wards while controlling for patient and ward-level characteristics. We hypothesized that seclusion and mechanical restraint are less likely to be used in a ward with more nurses. We used data for individual admissions from April 2015 to March 2017 in hospitals participating in the Psychiatric Electronic Clinical Observation (PECO) system, which extracted data from each hospital's electronic health record system. We analyzed the data of 10,013 admissions in 113 wards of 23 hospitals. We examined the relationships between the number of nurses per 10 beds in each ward and the use of seclusion and mechanical restraint, controlling for the patients' age, sex, diagnosis, voluntary versus involuntary admission, prescribed dose of antipsychotics, severity of symptoms, and length of stay, in addition to ward-level characteristics including ward size, location (urban or rural), and type of ward (acute ward or not), using multilevel multivariate logistic regression analyses. The fraction of admissions exposed to at least one episode of seclusion or mechanical restraint was 36.7% and 14.9%, respectively. The odds ratios of the number of nurses per 10 beds for the use of seclusion and mechanical restraint were 2.36 and 1.74, respectively, indicating that both seclusion and mechanical restraint were actually used more frequently in wards with more nurses. A possible explanation is that patients anticipated to need coercive measures are more likely to be admitted to wards with many nurses. Increasing the number of nurses in a ward may not contribute to reducing the use of seclusion and restraint.

### 1. Introduction

The use of coercive measures, such as seclusion and restraint, in mental health care not only infringes patient autonomy, which can harm relationships between patients and care givers, but the use of restraint may also cause serious side effects such as thrombosis and pulmonary embolism (Hem, Steen, & Opjordsmoen, 2001; Laursen, Jensen, Bolwig, & Olsen, 2005). Therapeutic effects of the use of seclusion and restraint have not been supported by evidence (Sailas & Fenton, 2000). Interventions to reduce the use of these coercive measures have been undertaken in many countries (Bak, Brandt-Christensen, Sestoft, & Zoffmann, 2012; Gaskin, Elsom, & Happell, 2007; Steinert et al., 2010).

Although the frequency of the use of seclusion and restraint in psychiatric hospitals in Japan is not high compared with those in other countries (Steinert et al., 2010), it has been increasing. The number of

individuals subjected to restraint has increased especially rapidly, doubling in the last 10 years (Department of Mental Health Policy and Evaluation, National Institute of Mental Health, National Center of Neurology and Psychiatry, 2015). Although the reason of these increases is not clear, as a national policy to minimize the use of such measures, the revision of the medical service fee schedule in 2004 provided incentives for psychiatric hospitals to set up committees to monitor and review the use of seclusion and restraint and organize staff training. However, this has not led to their decrease.

In Japan, categories of admission to a psychiatric hospital are defined in the law “Act on Mental Health and Welfare for the Mentally Disabled.” In addition to voluntary admission based on the patient's consent, there are two forms of involuntary admission. One is medical protection admission, based on the consent of the patient's guardian on behalf of the patient, which is applicable when a certified psychiatrist judges that the patient has a mental disorder requiring inpatient

\* Corresponding author.

E-mail address: [s05fukasawa@ncnp.go.jp](mailto:s05fukasawa@ncnp.go.jp) (M. Fukasawa).

<https://doi.org/10.1016/j.ijlp.2018.08.001>

Received 25 December 2017; Received in revised form 18 July 2018; Accepted 6 August 2018

Available online 17 August 2018

0160-2527/ © 2018 Elsevier Ltd. All rights reserved.

treatment. The other is administrative involuntary admission, which is forced admission by order of the prefectural governor, applicable when two certified psychiatrists conclude independently that the patient has a mental disorder and a risk of harm to self or others due to a mental disorder. The standards for the treatment of inpatients in a psychiatric hospital, including the use of seclusion and restraint, are stipulated in the Notification of Japanese Health and Welfare Ministry based on the Act on Mental Health and Welfare for the Mentally Disabled. Seclusion can be used when it is extremely difficult to avoid danger to the patient him/herself or to people around him/her without it. Restraint is the restriction of a patient's behavior with emphasis on protecting his/her life and preventing serious injury, and can be used until another method is found. The use of seclusion for > 12 h and restraint require an order of a certificated psychiatrist. When seclusion or restraint is used, the reason for its use and the start date and end date must be recorded. Furthermore, doctors must examine a patient under seclusion at least once a day and examine a patient under restraint frequently. The Convention on the Rights of Persons with Disabilities (United Nations, 2006) was ratified in 2014 in Japan, which accelerated the development of legislation concerning the protection of human rights of persons with disabilities. However concrete measures to ensure the rights of inpatients in psychiatric hospitals have not been implemented, and their treatment, including the use of seclusion and restraint, needs to be examined.

Previous studies reported several factors associated with the use of seclusion and restraint, including not only patient characteristics but also organizational and ward characteristics. For seclusion, patient characteristics such as younger age, female sex, legal detainment, diagnoses such as bipolar disorder and schizophrenic disorder, severity of symptoms, and mental health problems such as hyperactive or aggressive behavior, self-injury or suicidality, and hallucinations or delusions were reported to correlate with greater use, while depressed mood was reported to correlate with lesser use (Cullen et al., 2016; Husum, Bjørngaard, Finset, & Ruud, 2010; Janssen et al., 2013). Similar characteristics, such as bipolar disorder and schizophrenic disorder and severity of symptoms, were reported to correlate with longer use of seclusion (Janssen et al., 2013; Noda et al., 2013). For restraint, mental health problems such as hyperactivity or aggression and self-injury or suicidality were reported to correlate with greater use (Husum et al., 2010). Male sex was reported to correlate with longer duration of restraint, while mental and behavioral disorders due to psychoactive substance use were reported to correlate with shorter duration of restraint (Noda et al., 2013). An international collaborative study across 10 European countries examining the use of seclusion, restraint, and forced medication reported that while the frequency of these coercive measures varied significantly across countries, patients with higher levels of psychotic symptoms, suspiciousness or hostility, and perceived coercion at admission had a higher risk of being subjected to these coercive measures, while patients with depression or anxiety symptoms had a lower risk (Kalisova et al., 2014).

At the organizational level, wards located in an urban area were reported to use more of both seclusion and restraint (Husum et al., 2010). Male-female staff ratio during a shift and variability in the staff's work experiences were reported to correlate with the use of seclusion (Janssen, Noorthoorn, Linge, & Lendemeijer, 2007), as were several design features of wards (van der Schaaf, Dusseldorp, Keuning, Janssen, & Noorthoorn, 2013) and ward size (Janssen et al., 2013). On the other hand, several preventive factors, including mandatory review of all mechanical restraint episodes, patient involvement in ward conferences, and absence of crowding were reported to be associated with low rates of mechanical restraint (Bak, Zoffmann, Sestoft, Almvik, & Brandt-Christensen, 2014). Hospitals using detailed guidelines for seclusion and restraint were also reported to use fewer of these coercive measures (Steinert et al., 2007). In addition, staff education, working environment, and the use of substitute staff were suggested as factors accounting for differences in frequency of the use of restraint across

countries (Bak et al., 2015).

Concerning efforts to reduce the use of seclusion and restraint, according to the recent studies, interventions considering multiple factors simultaneously and combining multiple interventions rather than focusing on a single factor seem to be promising. Gaskin et al. (2007) pointed out, based on a review of the literature on interventions to reduce the use of seclusion in psychiatric facilities, that the use of multiple interventions was typical, and that reducing rates of seclusion may require combining several interventions systematically. "Six core strategies for reducing seclusion and restraint use" (Huckshorn, 2004), which was developed to help mental health facilities reduce the use of seclusion and restraint, emphasized the utilization of multiple resources and tools, involving all facility staff and also consumers. Empirical studies reported their efficacy and effectiveness (Putkonen et al., 2013; Riahi, Dawe, Stuckey, & Klassen, 2016; Wieman, Camacho-Gonsalves, Huckshorn, & Leff, 2014). Another model, "Safewards", which was a theoretical model proposed to understand the differences in the frequency of conflicts (e.g. aggression, self-harm) and containments (e.g. seclusion, restraint) between wards (Bowers, 2014; Bowers et al., 2014), also pointed out the importance of considering multiple factors in multiple domains. A set of interventions based on the model demonstrated its efficacy (Bowers et al., 2015; Fletcher et al., 2017).

On the other hand, one of the possible barriers hindering the reduction of seclusion and restraint that is frequently mentioned by the staff providing mental health services is insufficient staffing levels to permit implementation of best practices (Melbourne Social Equity Institute, 2014). However, studies examining the relationship between the number of staff and the use of these coercive measures have been limited. While interventions to reduce the use of coercive measures in a psychiatric institution often included increases in staff, whether increasing staff leads to less use of seclusion and restraint is not clear. Interventions aimed at reducing the use of seclusion and restraint undertaken in a public psychiatric hospital (Donat, 2002, 2003) and in a state hospital system (Smith et al., 2005) included improvement of the staff-patient ratio as one of the strategies; however, several other interventions were performed simultaneously, and the effect of the staff increase itself was unclear. The findings of recent studies examining the effect of staff-patient ratio on the use of seclusion and restraint are conflicting. Janssen et al. (2007) reported a positive correlation between the number of patients per staff member and the number of seclusions in long-stay wards in psychiatric hospitals in the Netherlands, but this significant correlation was not maintained after controlling for other staff characteristics. Bak et al. (2015) reported that the difference of the frequency of use of mechanical restraint between Denmark and Norway was partly explained by the patient-staff ratios, although the patient-staff ratio was not related to the frequency of the use of restraint in each country individually, or when their data were combined (Bak et al., 2014, 2015). Husum et al. (2010) reported that the staff-to-bed ratio was not significantly associated with the use of seclusion and restraint in Norwegian acute psychiatric wards, when patient characteristics and staff attitudes were controlled for. In an international collaborative study among 10 European countries examining seclusion, restraint, and forced medication, considered together as coercive measures, the staff-to-patient ratio did not show any significant impact on the use of these coercive measures (Kalisova et al., 2014).

The aim of this study, therefore, was to clarify the effect of the nurse-to-bed ratio on the use of seclusion and restraint in Japanese general psychiatric wards, controlling for patient characteristics and ward-level characteristics. It was hypothesized that seclusion and restraint are less likely to be used in a ward with more nurses.

## 2. Materials and methods

### 2.1. Study population

This study used data obtained through the Psychiatric Electronic

Download English Version:

<https://daneshyari.com/en/article/9951731>

Download Persian Version:

<https://daneshyari.com/article/9951731>

[Daneshyari.com](https://daneshyari.com)