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Re-hospitalization of Psychiatric Residents of a Long-stay Care Home

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Abstract The aim of this study was to examine independent variables such as socio-demographic, psychopathologic, and rehabilitative support background that might predict re-hospitalization among psychiatric residents of a long-stay care home (LSCH) in Hong Kong. The re-hospitalization of psychiatric residents with mental health needs who were admitted to a long-stay care home during a 2-year period was analyzed retrospectively in this study. Descriptive statistics were gathered to study the distribution of the sample data. Logistic regression was used to examine the predictors of re-hospitalization. 176 residents (mean age 56.9, SD 8.4 years) were included, of whom 73% were male. The psychopathologic characteristics of most residents were similar in that 94.9% of them had been diagnosed with schizophrenia. Within the 2-year period the incidence of re-hospitalization among the LSCH residents was 267 out of a population of 1,000. Gender, age, a history of suicide attempts, referral from an acute psychiatric setting, and lack of participation in a rehabilitative training program were the predictors of re-hospitalization. Strategic interventions to improve the current rehabilitative support services of LSCHs are discussed.

Keywords Re-hospitalization, Institutionalized Patients, Long-stay Care Home

1. Introduction

Patients who have been hospitalized in a psychiatric hospital for a prolonged period of time tend to become institutionalized, with profound implications for their physical, mental, and social functioning. The restrictive environment of the hospital seriously affects their quality of life. They gradually lose their ability to take care of themselves and have difficulty maintaining an independent life upon returning to the community. Although the daily cost of hospitalizing a psychiatric patient is much lower than that of a general patient, the average total cost of hospitalizing a psychiatric patient is much higher than that of a general patient because the former tend to stay in hospital for much longer [1].

In Hong Kong, the movement to deinstitutionalize psychiatric patients by discharging them back to the community started in the 1980s [2]. Patients were either discharged home or resettled in public housing. However, there was a group of chronic psychiatric patients who were comparatively mentally stable. They did not require treatment and care in psychiatric hospitals. Unfortunately, they were not accepted by their families or could not live independently in the community.

The long-stay care home (LSCH) is a community-based mental residential service that was started in the 1990s to provide active rehabilitation for chronic psychiatric patients in Hong Kong [2-4]. The LSCH aims to maintain mental stability, enhance social skills and promote independency of its residents [4]. The daily cost per bed in an LSCH is much lower than in a psychiatric hospital; moreover, LSCH residents perceive their quality of life to be better than in a psychiatric hospital [2]. LSCHs currently play a significant role in psychiatric community rehabilitation services in Hong Kong because the number of beds in LSCHs increased from 200 in 1990 to 1,587 in 2014 [4].

2. Re-hospitalization of Psychiatric Patients

The re-hospitalization of residents has been a concern relating to the services of LSCHs because readmissions are costly for both LSCHs and psychiatric hospitals [5]. The psychological wellbeing of the residents and caregivers of LSCHs is affected. Lin et al. (2010) conducted a prospective study to follow for five years of more than 40,000 first-time hospitalization psychiatric patients to identify the rates and predictors of readmission after their discharge in Taiwan [6]. They found that male, younger age, economic poverty, diagnosed of schizophrenia or affective disorders were significantly associated with increased risk of readmission [6]. In another study by Webb, Yaguez, & Langdon (2007), they reported that chronic patients, taking medications, younger, affective disorders, and living in government subsidized houses were predictors of psychiatric readmissions [7]. Discharged patients with rehabilitative support in community would stay for a longer duration of time before they were re-hospitalized [6-8].

In a 2-year follow-up study on the system responsiveness of the first LSCH in Hong Kong, Cheung (2001) noticed that 8 out of 43 patients in the original cohort had been readmitted into a psychiatric hospital [3]. However, Cheung (2001) did not explore predictors contributing to their readmission into the psychiatric hospital after they had moved to the LSCH [3]. In view of the rapid expansion of LSCH services and their role in providing a better quality of care for residents, the aim in this study was to examine independent variables such as socio-demographic and psychopathologic characteristics and rehabilitative support to predict the psychiatric re-hospitalization of residents of a long-stay care home with mental health needs retrospectively within a 2-year period.

3. Methods

3.1. Design & Aims

A retrospective cohort research design was adopted for this study, in order to identify predictors of the re-hospitalization of residents of an LSCH.

3.2. Participants

All residents with mental health needs admitted during the first 24 months of a newly opened LSCH were included in the study. In this study, re-hospitalization was defined as admission into an acute inpatient psychiatric care facility. Variables, including socio-demographic characteristics, psychopathologic characteristics (i.e., diagnoses, suicidal history, criminal record, History of violence, priority follow-up), and rehabilitative support (administration of medications, rehabilitative training program) provided by the LSCH, were retrieved from the Mental Health Nursing History Documentation System of the LSCH.

3.3. Statistical Analysis

Descriptive statistics were gathered and t-tests and chi-square tests were performed to examine the distribution and variances of the sample data. The Statistical Package for the Social Sciences software (version 19) was employed. The potential explanatory variables were identified by comparing residents who had been re-hospitalized with those who had not. Continuous and binary variables were compared through t-tests and chi-square tests, respectively. Only those variables with a p-value of less than 0.2 in the univariate analysis were selected for logistic regression. A multiple logistic regression analysis was conducted to estimate the odds ratio for re-hospitalization, and 95% confidence intervals were obtained for statistically significant variables.

4. Results

176 residents (129 men and 47 women) have been admitted to the LSCH during the first 2-year of its services. Their data were successfully reviewed via the Mental Health Nursing History Documentation System. Their mean age was 56.9 (SD 8.4). The most common principal diagnosis among the residents was schizophrenia (166 residents, 94.9%). Other diagnoses were affective disorder (0.6%), dementia (0.6%), and other related psychotic disorders (4%), such as mental retardation. The participants' backgrounds are depicted in detail in Table 1. Of the 176 residents, 47 were readmitted during the 2-year study period. The incidence of re-hospitalization among the LSCH residents was 267 out of 1,000 (LSCH residents) within the 2-year period. Several explanatory variables, with p-values of less than 0.2 in the univariate analysis, were identified independently and were used to construct the prediction model. Finally, a model was constructed to predict the re-hospitalization based on the following five significant variables: gender male, a history of suicide attempts, referral from an acute psychiatric settings, participation in a rehabilitative training program, and age. These variables accounted for 84% of the total variance in re-hospitalization (Table 2).

Table 1. Participants' background of socio-demographic, psychopathologic characteristics and rehabilitative support

Variables	N	(%)	Mean	(SD)
Age	176	(100)	56.9	(8.4)
Gender				
Male	129	(73)		
Female	47	(27)		
Marital Status				
Single	146	(83)		
Married	9	(5)		
Widowed	5	(3)		
Divorced	13	(7)		
Separated	3	(2)		

Educational Level		
No schooling	23	(13)
Primary	79	(45)
Secondary	68	(39)
Tertiary	5	(3)
Past Occupation		
Never employed	88	(50)
Housewife	2	(1)
Technical	77	(44)
Service	6	(3)
Office	2	(1)
Professional	1	(1)
Referral to LSCH		
Acute psychiatric hospital setting	139	(79)
Non-acute nursing care setting	37	(21)
Diagnosis		
Schizophrenia	167	(95)
Affective disorder	1	(1)
Dementia	1	(1)
Others	7	(4)
Suicidal History		
Yes	35	(20)
No	141	(80)
Criminal Record		
Yes	12	(7)
No	164	(93)
History of violence		
Yes	77	(44)
No	99	(56)
Priority Follow-up (PFU)		
Non-PFU	146	(82)
PFU (target)	30	(18)
Compliance with Medications		
Self-medication good	0	(0)
Poor	2	(1)
Under supervision	100	(57)
Receiving depot injection	74	(42)
Participation in Rehabilitative Training Program		
Yes	65	(37)
No	111	(63)

Table 2. Reporting a Multiple Logistic Regression Model with Five Explanatory Variables of Re-hospitalization among a LSCH Residents

Variables	Coefficient (β)	Standard Error	Wald $\chi2$	*P* value	Odds Ratio Exp (B)	95% CI
Intercept	0.19	1.72	-	-	-	-
Male	2.33	0.64	13.36	<0.001	10.28	2.95 to 35.85
History of suicide attempts	1.58	0.49	10.42	0.001	4.88	1.86 to 12.76
Referral from an acute psychiatric settings	2.32	0.61	14.47	<0.001	10.20	3.08 to 33.73
Participation in a rehabilitative training program	-1.45	0.47	9.73	0.002	0.24	0.09 to 0.58
Age	-0.09	0.03	8.94	0.003	0.92	0.86 to 0.97

$\chi2$= 54.4, df=5, *p*=<0.001.

5. Discussion

The aim of this study was to examine the incidence of re-hospitalization among LSCH residents with mental health needs. The study found that the incidence of re-hospitalization was 267 out of 1,000 LSCH residents within a 2-year period. This was an increase of about 1.5 times from the rate reported by Cheung (2001), who had investigated the incidence of re-hospitalization among LSCH residents in a 2-year follow-up study of Hong Kong [3]. We could find no other similar study to compare the current incidence of re-hospitalization among LSCH residents in Hong Kong. We also conducted a retrospective review of all of the residents admitted to an LSCH within a 2-year period to determine the variables (i.e., socio-demographic, psychopathologic, and rehabilitative support) that were most predictive of re-hospitalization. The findings indicate that re-hospitalization status is best predicted by the existence of the following factors: male, referral from an acute psychiatric setting, a history of suicide attempts, lack of participation in a rehabilitative training program, and a younger age. These findings are consistent with those of other studies predicting readmission to psychiatric hospitals after the patients had been discharged into the community [5-11]. These resident-specific factors may influence re-hospitalization rates. Younger male residents with more severe and persistent difficulties such as those with a history of suicide attempts who have been discharged from acute psychiatric settings are at a greater risk of re-hospitalization during their stay in the LSCH than other residents. Thus, for residents in LSCHs who appear to be at a lower risk of re-hospitalization, acute psychiatric hospital stays could be shortened under managed rehabilitative support care. For example, in the current study, non-drug compliance was not a predictor of re-hospitalization. Providing a rehabilitative training program to residents at an LSCH could minimize the incidence of re-hospitalization. Therefore, the quality of the services offered by LSCHs and the support that they offer to the residents would be significant factors in minimizing the re-hospitalization of their residents.

6. Conclusions

Participation in a rehabilitative training program was a modifiable factor in preventing re-hospitalization among residents. LSCHs should identify residents who are at a higher risk of re-hospitalization and implement strategies on an individual basis to prevent them from being readmitted to a psychiatric hospital. To prevent re-hospitalization, the non-attendance of residents in rehabilitative training programs should first be investigated. Second, LSCH residents who are male, young, and who have a history of suicide attempts should be encouraged to participate in rehabilitative training programs. Finally, the effectiveness of rehabilitative training programs should be evaluated in future studies.

This was the first study to identify predictors of re-hospitalization among LSCH residents in Hong Kong. Gender, a history of suicide attempts, referral from acute psychiatric settings, and age were found to contribute significantly to the risk of re-hospitalization among LSCH residents. Territory-wide and longitudinal studies are recommended to investigate the predictors of re-hospitalization of LSCHs in Hong Kong so that a comprehensive database can be established to provide reliable data to formulate effective services of LSCHs.

REFERENCES

[1] Hong Kong Hospital Authority (2014). Hospital Authority Annual Report 2012 –2013. Hong Kong: Hong Kong Hospital Authority.

[2] Law, K.K.P., Yau, S.B., Wan, D.L.Y. & Chan, C.C.H. (2002). Relationship between perceived quality of life, social functioning, and life kills performance of patients with chronic psychiatric conditions in a long stay care home. Hong Kong Journal of Psychiatry, 12(2), 2-7.

[3] Cheung, H.K. (2001). A 2-year prospective study of patients from Castle Peak Hospital discharged to the first long-stay care home in Hong Kong. Hong Kong Journal of Psychiatry, 11(2), 1 – 12.

[4] Social Welfare Department (2014). Long Stay Care Home. Retrieved fromwww.swd.gov.hk/en/index/site_pubsvc/page_rehab/sub_listofserv/id_longstayca/

[5] Baron, K. & Hays, J.R. (2003). Characteristics of Readmitted Psychiatric Inpatients. Psychological Reports, 93, 235 – 238.

[6] Lin, C.H., Chen, W.L., Lin, C.M., Lee, M.D., Ko M.C., et al. (2010). Predictors of psychiatric readmissions in the short- and long-term: a population-based study in Taiwan. Clinics, 65(5), 481 – 489.

[7] Webb, S., Yaguez, L., & Langdon, P.E. (2007). Factors associated with multiple re-admission to a psychiatric hospital. Journal of Mental Health, 16(5), 647 – 661.

[8] Yamada, M.M. & Korman, M. (2000). Predicting rehospitalization of persons with severe mental illness. Journal of Rehabilitation, 66(2), 32 – 39.

[9] Bernardo, A.C. & Forchuk, C. (2001). Factors associated with readmission to a psychiatric facility. Psychiatric Services, 52(8), 1100 – 1102.

[10] Bobier, C. & Warwick, M. (2005). Factors associated with readmission to adolescent psychiatric care. Australian and New Zealand Journal of Psychiatry, 39, 600-606.

[11] Chandrasekaren, R. & Gnanaselane, J. (2008). Predictors of repeat suicidal attempts after first-ever attempt: a two-year follow-up study. Hong Kong J Psychiatry, 18, 131 – 135.