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Predictors of Frequent Rehospitalisation in Psychiatric Facilities: Article Review

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Abstract

Psychiatric rehospitalisation is a public health problem that directly affects psychiatric interdisciplinary team and health care system due to health care overutilization. The World Health Organization (WHO) has already reported that mental illnesses are the leading causes of disability and depression alone accounts for one third of this disability.

Author reviewed multiple articles to extract current available evidence for reasons of psychiatric rehospitalisation, found various reasons such as very short hospitalization, patients with an affective disorder, specific type of comorbidities such as substance use disorders, young age; female gender, personality disorders, unemployment, and various psychosocial stressors are also associated with psychiatric rehospitalisation.

Author believes that extra measures during hospital course and addressing avoidable reasons for frequent rehospitalisation can prevent health care over utilization and benefit psychiatric patients, their families and support system.

Objective: Review articles to extract common reasons for frequent rehospitalisation in psychiatric facilities.

Keywords: Psychiatric admissions/readmission; Psychiatric hospitalisations/rehospitalisation; Inpatient psychiatric services; Mental health/illness admissions.

Introduction

The WHO has already reported that mental illnesses are the leading causes of disability adjusted life years (DALY's) worldwide, accounting for 37% of healthy years lost from Non-communicable diseases (NCD's) [1]. Depression alone accounts for one third of this disability [2]. The new report estimates the global cost of mental illness at nearly $2.5 T (two-thirds in indirect costs) in 2010, with a projected increase to over $6 T by 2030 [3].

The Agency for Health Care Research and Quality cites a cost of $57.8 B in 2006 for mental health care in the US, equivalent to the cost of Cancer care [3]. But unlike cancer, much of economic burden of mental illness is not the cost of care, but the loss of income due to unemployment expenses for social support and a range of indirect cost due to a chronic disability that begins early in life.

One in four adults – approximately 61.5 million Americans – experiences mental illness in a given year. One in 17 about 13.6 million live with a serious mental illness such as schizophrenia, major depression or bipolar disorder [4]. Approximately 20 percent of youth ages 13 to 18 experiences severe mental disorders in a given year. For ages 8 to 15 the estimate is 13 percent [5].

Approximately 60 percent of adults [6], and almost one half of youth ages 8 to 15 with a mental illness received no mental health services in the previous year [7]. African-American and Hispanic Americans used mental health services at about one-half the rate of whites in past year and Asian Americans at about one-third the rate [8]. One-half of all chronic mental illness begins by the age of 14; three quarters by age 24 [9]. Despite effective treatment, there are long delays – sometimes decades-between first appearance of symptoms and when people get help [10].

The impact of mental illness in America from serious mental illness costs $193.2 billion in lost earnings per year [11]. Mood disorders such as depression are the third most common cause of hospitalization in the US for both youth and adults ages 18 to 44 [12].

Individuals living with serious mental illness face an increased risk of having chronic medical conditions [13]. Adults living with serious mental illness die on average 25 years earlier than other Americans, largely due to treatable medical conditions [14].

Suicide is the tenth leading cause of death in US (more common than homicide) and third leading cause of death for ages 15 to 24 years [15]. More than 90 percent of those who die by suicide had one or more mental disorders [16].

Method

Literature search from PubMed.gov by using pre-determined key words.

Literature Evidence

Examined predictors of psychiatric rehospitalisation among elderly persons, found very short hospitalizations were associated with increased risk of rehospitalisation among persons with affective disorder and specific types of comorbidities associated most strongly with rehospitalisation risk [17].About fifth of hospitalized Medicare beneficiaries were readmitted for a primary psychiatric condition within six months of in-patient discharge [17, 18].Readmission rate was much higher (by about 50%) for persons with a primary diagnosis of bipolar disorder or schizophrenia than for those with other disorders [17].

Psychosis and unemployment seem to have an independent effect on the number of hospitalization, they also found significant differences between recurrently admitted inpatients and inpatients in the matched-control group were observed in educations achievement, employment status, principal diagnosis, past and current substance abuse and length of index hospitalization [19].

A case-control study suggested that community psychosocial support services play a strong role in preventing multiple psychiatric admissions [20].

Fifty four percent of the total admissions and 62% of the readmissions in this patient sample were related to suicide risk. Furthermore, patients with more readmission were more likely to be readmitted for suicide risk. Patients with an index admission related to suicidal ideation or planning had increased risk of readmission because of suicide risk. A history of psychiatric hospitalization during the previous year, having a personality disorder or a substance use disorder and living alone or receiving a disability pension or social or unemployment benefit also predicted admission [21].

Readmission to inpatient psychiatric treatment was common for patient with co-occurring disorders, and these observational findings indicate that continuing care for a substance use disorder was associated with lower risk of early admission [22].

Both studies identified low level of schooling as a risk factor for readmission [23, 24].

Several studies found young age group also associated with psychiatric readmissions [25, 26].Diagnosis of Schizophrenia was especially found statistically significantly associated with readmission rate [24, 26, 27],diagnosis of personality disorder [25, 27], and of mental and behavioural disorders due to the use of psychoactive substances. Condition of living alone was found also associated with higher rate of readmission [24],suggesting importance of the material and emotional support received from people involved in the cohabitation. Strong positive association between the number of previous hospitalizations and risk of future readmissions, suggesting that there is a vicious circle involved in psychiatric readmission, described as a phenomenon that tends to feedback [26].Characteristics of the first psychiatric hospitalization, specifically, presented an association with readmission [24, 27].

Comparison was performed, in terms of cost-effectiveness, between case management and Assertive Community Treatment, the latter being differentiated by the availability of assistance for a longer period and with a greater number and diversity of professionals involved in the treatment of the patient. The results indicated that the patients enrolled in Assertive Community Treatment more time out of hospital and, therefore, presented fewer admissions, without additional cost to the health system [28].

Noted 15 factors, combined into four major categories, social factors were found to contribute to 38.9 percent of admission, followed by factors related to psychiatric and physical illness (31.1 percent), dangerousness to self or others (20.3 percent) and substance abuse (9.7 percent) [29].

The mean age of the 50 patients was 34.9 years, and there was a slight predominance of females. Most patients had never married and had been unemployed for a long time. All had a low income. The mean number of years of education was ten. The group was seriously disabled by psychiatric illness. The most common diagnosis was Schizophrenia, followed by schizoaffective disorder and Bipolar disorder. Comorbid Axis I disorder and personality disorder or physical illness was common. Drug and alcohol abuse often complicated patient management and patient's ability to live successfully in community [30].

In 1994, a total of 1575 patients were hospitalized, and 18% of these patients were readmitted for the third or more time. The principal diagnoses were psychotic disorders (25%), affective disorders (35%) and substance – related disorders (24%). The predictors of multiple admissions for psychotic patients were a comorbidity of substance – related disorder, longer duration of illness, female sex, younger age and poorer psychosocial adjustment during the past year. These results highlight the usefulness of computerized psychiatric database [31].

Seventy-one percent of patients receiving diagnosis of Schizophrenia were readmitted in the 5-year period, compared to 59% for bipolar disorder, and 48% for depression. For all these diagnoses, the number of prior admissions was predictor of the number of readmissions and the total number of days spent in hospital in the follow-up period. Age and sex also had significant effects, which varied across diagnostic groups [32].

The percentage of readmissions occurring to the discharging institution ranged from 39% to 89% (median 73%) and from 37% to 86% (median 70%) for 30 and 90 day readmissions, respectively. Using only within-hospital readmissions to rank hospitals by their readmission rates, only 56% hospitals for 30-day readmissions and 50% for 90-day readmissions were ranked in the same quartile as when actual readmission rate were used [33].

One interesting study reported length of stay is multifactorial. Behavioural manifestations of illness and lack of social support structures predicted prolonged length of stay. Good clinical practice did not necessarily translate to a short length of stay. Therefore length of stay is predictable, but not really modifiable with in the clinical domain. Good clinical practice with in the community following discharge likely reduces the risk of readmission. Quality of inpatient care does not influence the risk of readmission, which therefore raises a question about validity of using the rate of readmission as an outcome measure of psychiatric inpatient care [34].

The most robust predictor of future psychiatric hospitalization is the number of previous admissions [35].

One recent study found, approximately 18% of all individuals with index inpatient hospitalizations for heart failure (HF), acute myocardial infarction (AMI), and pneumonia were readmitted within 30 days. The rate of readmission was 5% greater for individuals with a psychiatric comorbidity compared with those without a psychiatric comorbidity (21.7% and 16.5% respectively, $p < 0.001$). Depression, anxiety, dementia were associated with more readmission of person with index hospitalizations for each general medical condition and for all conditions combined ($p < 0.05$) [36].

Results

Author found many articles during bibliographic search by using pre-determined keywords; only 23articles selected for review, several articles excluded due to variety of reasons such as repletion, published in language other than English, currently in press not published etc.

Limitations:

1. Author has not reviewed articles from other available data bases.
2. Author has excluded all articles published in other than English language.
3. Studies reviewed were without control group
4. No study was randomized control study
5. All reviewed studies were from USA, Canada, Japan, Switzerland, Australia and New Zealand.
6. Several studies were old, they utilized DSM old version such as DSM III.

Discussion, Conclusions and Recommendations

Mental illnesses are very common and they have severe economic impact, not only due to illness itself but also disability, development of medical illnesses, poor outcomes and frequent hospitalization, all can cause excessive health care resource utilization. Based on observations in several studies author found strong association with co-occurring disorders and readmissions. It further emphasizes importance of integrated care for management of co-occurring disorders, for better outcomes.

Integrated care model to address mental and medical illnesses to reduce needless disability and improve outcomes.

Patients with substance abuse disorder will benefit from post discharge substance use disorder treatment in decreasing likelihood of psychiatric readmission.

Improve psycho-social support, and coordinated out-patient care post-discharge from psychiatric unit.

Mental health system must provide appropriate targeted resources and assertive, continuous case management to avoid social crises.

Address issues surrounding drug and alcohol abuse among heavy users of services must be actively addressed.

Services systems identify patients in this subgroup and target management strategies to these often very disadvantaged and challenging patients.

Early identification of the types of psychiatric patient who are likely to be readmitted is necessary to enable the planning and implementation of specific programmes of ambulatory care to prevent rehospitalisation.
Need for strong emphasis on providing psycho-education (specifically about identification of early symptoms of relapse) to patients, their family and/or support system during inpatient care.

Adequate record-keeping by health institutions are advocated.

Future Research

Author recommends retrospective and prospective study of rehospitalisation with large number of subjects at different point of time (one, three, six months and at end of one year)

References

1. World Health Organization (WHO 2011a). Global status report on non-communicable diseases 2010. Geneva: WHO.
2. World Health Organization (WHO 2008). The Global Burden of Disease: 2004 Update.
3. Soni Anita, The Five Most Costly Conditions, 1996 and 2006: Estimates for the US Civilian Noninstitutional Population. Statistical brief # 248. July 2009. Agency for Healthcare Research and Quality, Rockville, MD, http://www.meps.ahrq.gov/mepsweb/data_files/publications/st248/stat248.pdf.
4. National Institutes of Health, National Institute of Mental Health. Statistics: Any Disorder among Adults. Retrieved March 5, 2013, from http://www.nimh.nih.gov/statistics/1ANYDIS_ADULT.shtml
5. National Institutes of Health, National Institute of Mental Health. (n.d.). Any Disorder among Children. Retrieved March 5, 2013, from http://www.nimh.nih.gov/statistics/1ANYDIS_CHILD.shtml
6. Substance Abuse and Mental Health Services Administration. (2012). Results from the 2010 National Survey on Drug Use and Health: Mental Health Findings NSDUH Series H-42, HHS Publication No. (SMA) 11-4667). Rockville, Md.; Substance Abuse and Mental Health Services Administration, 2012.
7. National Institute of Mental Health. (n.d.). Use of Mental Health Services and Treatment among Children. Retrieved March 5, 2013, from http://www.nimh.nih.gov/statistics/1NHANES.shtml
8. Agency for Healthcare Research and Quality (2010). 2010 National Healthcare Disparities Report. Agency for Healthcare Research and Quality, Rockville, MD. Retrieved January 2013, from http://www.ahrq.gov/research/findings/nhqrdr/nhdr10/index.html.
9. Kessler RC et al. (2005) Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry, 62(6), 593-602.
10. National Institutes of Health, National Institute of Mental Health. (2005)Mental Illness Exacts Heavy Toll, Beginning in Youth. Retrieved March 5, 2013, from http://www.nih.gov/news/pr/jun2005/nimh-06.htm
11. Insel T.R (2008) Assessing the Economic Costs of Serious Mental Illness. The American Journal of Psychiatry. 165(6), 663-665.
12. WierLM (Thompson Reuters), et al. HCUP facts and figures: statistics on hospital-based care in the United States, 2009. WebRockville, Md. Agency for Healthcare Research and Quality, 2011. Retrieved March 5, 2013, from http://www.hcup-us.ahrq.gov/reports.jsp.
13. Colton, C.W. &Manderscheid, R.W. (2006) Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. Preventing Chronic Disease: Public Health Research, Practice and Policy, 3(2), 1-14.
14. Parks J et al. (2006)Morbidity and Mortality in People with Serious Mental Illness. Alexandria, VA: National Association of State Mental Health Program Directors (NASMHPD) Medical Directors Council.
15. McIntosh JL&Drapeau CW (for the American Association of Suicidology). (2012). U.S.A. suicide: 2010, official final data. Washington, D.C: American Association of Suicidology.
16. American Association of Suicidology (2012) Suicide in the USA Based on 2010 Data. Washington, DC: American Association of Suicidology.
17. Psychiatric rehospitalisation among elderly persons in the United States, J D Prince, A Akincigil, E Kalay et al, Psychiatric Services, 59 (9):1038-1045, 2008.
18. Factors associated with frequent admissions to an acute geriatric psychiatric inpatient unit. Woo BKP, Golshan S, Allen EC, et al. Journal of Geriatric Psychiatry and Neurology 19:226-230, 2006.

19. Characteristics of inpatients with a history of recurrent psychiatric hospitalizations: A matched-control study. T Schmutte, C Dunn, W Sledge, Psychiatric services 60 (12): 1683-1685, 2009.
20. A case-control study of factors associated with multiple psychiatric readmissions. NC Silva, DG Bassani, LS Palazzo, Psychiatric services 60 (6): 786-791, 2009.
21. Suicide risk and acute psychiatric readmissions: A prospective cohort study, L Mellesdal, L Mehlum, T Wentzel-Larsen et al., Psychiatric services, 61(1): 25-31, 2010.
22. Continuing care after inpatient psychiatric treatment for patients with psychiatric and substance use disorders. MA Ilgen, KU Hu, RH Moos, et al, Psychiatric services, 59(9): 982-988, 2008.
23. Associated factors of rehospitalisation among schizophrenic patients. Suzuki Y, Yasumura S, Fukao A, et al, Psychiatry and clinical Neurosciences, 57 (6), 555-561, 2003.
24. Prediction of in-patient use in first-admitted patients with psychosis, Lay B, Lauber C and Rassler W, European Psychiatry, 21(6), 401-409, 2006.
25. The effects of public managed care on patterns of intensive use of inpatient psychiatric services, Geller JL, Fisher WH, McDermeit et al. Psychiatric services, 49 (3), 327-332, 1998.
26. Predictors of psychiatric rehospitalisation for persons with serious and persistent mental illness, Song LY, Biegel DE and Johnsen JA, Psychiatric rehabilitation journal, 22 (2), 155-166, 1998.
27. Utilization of psychiatric in-patient care among new patients in a comprehensive community-care system: a 3-year follow-up study. Saarento O et al. ActaPsychiatricaScaninavica, 95 (2), 132-139, 1997.
28. Cost-effectiveness of assertive community treatment teams. Essock SM, Frisman LK, and Kontos NJ, The American Journal of Orthopsychiatry, 68 (2), 179-190, 1998.

29. Kent S, Yellowlees P. Psychiatric and social reasons for frequent rehospitalization, Hosp Community Psychiatry. 1994 April; 45(4): 347-50.
30. Kent S, Fogarty M, Yellowlees P. Heavy utilization of inpatient and outpatient services in public mental health service. Psychiatric services. 1995 December; 46 (12): 1254-1257.
31. Vogel S, Huguelet P. Factors associated with multiple admissions to a public psychiatric hospital. ActaPsychiatr Scand. 1997 March; 95(3):244-253.
32. Daniels BA, Kirkby KC, Hay DA, Mowry BJ, Jones IH. Predictability of rehospitalization over 5 years for schizophrenia, bipolar disorder and depression. Aust N Z J Psychiatry. 1998 April; 32(2):281-286.
33. Vigod SN, Taylor VH, Fung K, Kurdyak PA. Within-hospital readmission: and indicator of readmission after discharge from psychiatric hospitalization. Canadian Journal of Psychiatry. 2013 58(8); 476-481.
34. Zhang J, Harvey C, Andrew C. Factors associated with length of stay and the risk of readmission in an acute psychiatric inpatient facility: a retrospective study. The Australian and New Zealand Journal of Psychiatry 2011, 45(7):578-585.
35. Schmutte T, Dunn CL, Sledge WH. Predicting time to readmission in patients with recent histories of recurrent psychiatric hospitalization: a matched-control survival analysis. The Journal of Nervous and Mental Disease, 2010; 198(12):860-863
36. Ahmedani BK, Solberg LI, Copeland LA, Fang-Hollingsworth Y, Stewart C, Hu J, et al. Psychiatric comorbidity and 30-day readmissions after hospitalization for Heart Failure, Acute Myocardial Infarction and Pneumonia, Psychiatric Services Volume 66, Issue 2, Feb 2015: 134-140.