

Mental Illness and Co-morbid Conditions: BioSense 2008 - 2011

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Objective

The purpose of this paper was to analyze the associated burden of mental illness and medical comorbidity using BioSense data 2008-2011.

Introduction

Understanding the relationship between mental illness and medical comorbidity is an important aspect of public health surveillance. In 2004, an estimated one fourth of the US adults reported having a mental illness in the previous year (1). Studies showed that mental illness exacerbates multiple chronic diseases like cardiovascular diseases, diabetes and asthma (2). BioSense is a national electronic public health surveillance system developed by the Centers for Disease Control and Prevention (CDC) that receives, analyzes and visualizes electronic health data from civilian hospital emergency departments (EDs), outpatient and inpatient facilities, Veteran Administration (VA) and Department of Defense (DoD) healthcare facilities. Although the system is designed for early detection and rapid assessment of all-hazards health events, BioSense can also be used to examine patterns of healthcare utilization.

Methods

We used 4 years (2008 – 2011) of BioSense civilian hospitals' EDs visit data to perform the analysis. We searched final diagnoses for ICD-9 CM codes related to mental illness (290 – 312), schizophrenia (295), major depressive disorder (296.2 – 296.3), mood disorder (296, 300.4 and 311) and anxiety, stress & adjustment disorders (300.0, 300.2, 300.3, 308, and 309). We used BioSense syndromes/sub-syndromes based on chief complaints and final diagnoses for comorbidity. For the purpose of this study, comorbidity was defined broadly as the co-occurrence of mental and physical illness in the same person regardless of the chronological order. The proportion was calculated as the number of mental health visits associated with comorbidity divided by the total number of mental illness relevant visits. We ranked the top 10 proportions of comorbidity for adult mental illness by year.

Results

From 2008-2011, there were 4.6 million visits where mental illness was reported in the EDs visits. Average age of those reported mental illness was 44 years, 55% were women and 45% were men. More women were reported with anxiety (67%), mood (66%), and major depressive disorders (59%) than men; while men were reported

more with schizophrenia (56%) than women (44%). The most common comorbid condition was hypertension, followed by chest pain, abdominal pain, diabetes, nausea & vomiting and dyspnea (Table 1). Ranks of injury, falls, headache and asthma were slightly variant by year.

Conclusions

This study supports prior findings that adult mental illness is associated with substantial medical burden. We identified 10 most common comorbid condition associated with mental illness. The major limitation of this work was that electronic data does not allow determination of the causal pathway between mental illness and some medical comorbidity. In addition, data represents only those who have access to healthcare or those with health seeking behaviors. Familiarity with comorbid conditions affecting persons with adult mental illness may assist programs aimed at providing medical care for the mentally ill.

Table 1. Rankings of comorbidity conditions reported in adults with episodes of mental illness in EDs

Rank	2008	2009	2010	2011
1	Hypertension	Hypertension	Hypertension	Hypertension
2	Chest Pain	Chest Pain	Chest Pain	Chest Pain
3	Abdominal pain	Abdominal pain	Abdominal pain	Abdominal pain
4	Diabetes mellitus	Diabetes mellitus	Diabetes mellitus	Diabetes mellitus
5	Nausea & vomiting	Nausea & vomiting	Nausea & vomiting	Nausea & vomiting
6	Dyspnea	Dyspnea	Dyspnea	Dyspnea
7	Injury, NOS	Falls	Falls	Falls
8	Falls	Asthma	Headache	Headache
9	Headache	Headache	Asthma	Injury, NOS
10	Asthma	Injury, NOS	Injury, NOS	Asthma

Keywords

ED visits; Adult mental illness; Medical comorbidity

References

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