# Bipolar disorders

## FC06

### Multimorbidity in affective disorders: Impact on length of stay

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*Background* Multimorbidity (MM) refers to the coexistence of two or more chronic diseases in the same individual; it encompasses medical comorbidity (MC) and psychiatric comorbidity (PC). Hypothesis: MM is prevalent amongst in-patients suffering from affective disorders (AD) and also impacted on length of stay.
*Aims* To determine the prevalence of MM and its impact on duration of hospitalization in AD admissions.
*Method* This cross-sectional study was conducted using secondary data taken from discharge records of 1056 adults admitted for AD to a Quebec-based facility, between 2006 and 2014. Distribution of AD cases: 47% depression, 53% bipolar disorders.
*Results* The prevalence rate of MM: 85%. PC was present in 70% of sample whereas MC was present in 62%. The median number of comorbid illnesses was 2.7 for each study subject. The rate of MM was not related to age or gender. Metabolic syndrome (54%), cardiovascular diseases and chronic pain syndrome (17%) were the most prevalent MC in both depressed and bipolar populations. Personality disorder (65%) was highest in the depression population, whereas substance misuse (55%) was the most prevalent PC in the bipolar subjects. A longer length of stay was correlated with MM. However, a logistic regression analysis indicated that duration of hospitalization was only correlated with MC.
*Conclusions* The observation that MM is the norm, even in this relatively young population with AD. The results confirmed that MC prolongs hospital stay. These findings advocate strongly for integrated management of psychiatric and physical health problems in clinical practice.
*Disclosure of interest* The authors have not supplied their declaration of competing interest.

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## FC07

### Trends of hospitalization for bipolar I in USA: A nationwide analysis

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*Objectives* Bipolar I (B-I) is an important cause of morbidity and mortality in hospitalized patients. While B-I has been extensively studied in the past, the contemporary data for impact of B-I on cost of hospitalization are largely lacking.
*Methods* We queried the Healthcare Cost and Utilization Project's Nationwide Inpatient Sample (HCUP-NIS) dataset between 1998–2011 using the ICD-9 codes. Severity of comorbid conditions was defined by Deyo modification of Charlson comorbidity index. Primary outcome was in-hospital mortality and secondary outcome was total charges for hospitalization. Using SAS 9.2, Chi$^2$ test, *t*-test and Cochran-Armitage test were used to test significance.
*Results* A total of 1,80,681 were analyzed; 56.29% were female and 43.71% were male ($P<0.0001$); 70.63% were white, 17.14% black and 12.23% of other race ($P<0.0001$). Rate of hospitalization increased from 7469.65/million to 9375.27/million from 1998–2011. Overall mortality was 0.12% and mean cost of hospitalization was 19,821.50$. The in-hospital mortality increased from 0.13% to 0.16% ($P<0.0001$) and mean cost of hospitalization increased from 12,091.31$ to 29,292.97$. Total yearly spending on B-I related admissions increased from $0.72 million/year to $2.16 billion/year.
*Conclusions* While mortality has slightly increased from 1998 to 2011, the cost has significantly increased from $0.72 million/year to $2.16 billion/year, which leads to an estimated $1.46 billion/year additional burden to US health care system. In the era of cost conscious care, preventing B-I related Hospitalization could save billions of dollars every year. Focused efforts are needed to establish preventive measures for B-I related hospitalization.
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## FC08

### The impact of climate on risk of mania

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*Introduction* Bipolar disorder varies with season: admissions for depression peak in winter and mania peak in summer. Sunlight presumably increases the risk of mania through suppression of melatonin. If so, we expect admissions for mania to vary in accordance with climate variations.
*Objectives* To investigate how climate and climate changes affects admissions for mania.
*Aims* To identify which climate variables – sunshine, ultraviolet radiation, rain and snow cover – affect admissions for mania.
To examine whether year-to-year weather variation as well as long-term climate changes reflects the variation in number of admissions for mania.
*Methods* This register-based nationwide cohort study covers all patients admitted for mania (ICD-10 code F31 or F30.0–F30.2) between 1995 and 2012 in Denmark. Climate data, obtained from the Danish Meteorological Institute, were merged with admission data and correlated using an Unobserved Component Model regression model.
*Preliminary results* In total, 8893 patients were admitted 24,313 times between 1995 and 2012: 6573 first-admissions and 17,740 readmissions. Linear regression shows significant association between admissions per day and hours of sunshine ($P<0.01$) and ultraviolet radiation (UV) dose ($P<0.01$). Average days with snow cover and rain were not significantly correlated with admissions. Analyses on year-to-year variation and long-term change are not yet available.
*Preliminary conclusions* Admissions for mania are correlated with sunshine and UV, but not rain and snow cover. If more patients are admitted during very sunny summers compared with less sunny summers this implies a relation with light itself and not just season.
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