PMH10 SYSTEMATIC REVIEW OF LONG-ACTING INJECTABLES (LAIs) VERSUS ORAL ATYPICAL ANTI PSYCHOTICS (OAs) ON HOSPITALIZATION IN SCHIZOPHRENIA

Lafeuille MH1, Cloutier M1, Fortier J1, Duh MS2, Fastenau J3, Dirani R4, Lefebvre P5
1Groupe d’analyse, Litté, Montréal, QC, Canada, 2Analysis Group, Inc., Boston, MA, USA, 3Transcan Scientific Affairs, LLC, Titusville, NJ, USA

OBJECTIVES: The current study aimed at assessing the impact of LAIs versus OAs on hospitalizations among patients with schizophrenia by conducting a thorough systematic review of studies with different study designs and performing a meta-analysis.

METHODS: Using the PubMed database and major psychiatric conference proceedings, a systematic literature review for 01/2000-07/2013 was performed to identify English-language studies evaluating schizophrenia patients treated with atypical antipsychotics. Studies reporting hospitalization rates as a percentage of patients hospitalized or as the number of hospitalizations per-person per-year were selected. A meta-analysis of the percentage decrease in hospitalization rates from baseline during treatment was conducted as a primary analysis. The secondary analysis with a meta-analysis of the absolute rate of hospitalization during follow-up. Pooled treatment-effect estimates were calculated using random-effect models. To account for differences in patient and study-level characteristics between studies, meta-regression analyses were used. Subset analyses further explored heterogeneity across study designs. No adjustment was made for multiplicity.

RESULTS: Fifty-eight studies evaluating 25 arms (LAIs: 13 arms, 4,516 patients; OAs: 12 arms, 23,106 patients) were included in the primary analysis and 12 arms (LAIs: 12 arms, 4,481 patients; OAs: 66 arms, 96,230 patients) in the secondary analysis were identified. Reduction in hospitalization rates for LAIs was 20.7 percentage points higher than that of OAs (random-effect estimates: LAIs=-56.2% vs OAs=-55.5%, P=0.023). Controlling for patient demographic and study-level characteristics, the adjusted percentage reduction in hospitalization rates for LAIs was 26.4 percentage points higher than for OAs (95%CI: 3.3-49.5, P=0.0001).

For the secondary analysis, no significant difference between LAIs and OAs was observed (random-effect estimates: -8.6, 95%CI: -18.1-1.3, P=0.097). Subgroup analyses across type of study yielded consistent results. CONCLUSIONS: Results of this meta-analysis including studies with both interventional and non-interventional designs and using meta-regressions, suggest that LAIs significantly reduce hospitalization rates for schizophrenia patients compared to OAs.

PMH11 THE TRADEOFF BETWEEN INTERNAL AND EXTERNAL VALIDITY IN COMPARING THE EFFECTIVENESS OF TRANSCRANIAL MAGNETIC STIMULATION (TMS) WITH ANTIDEPRESSANT DRUG THERAPY IN THE TREATMENT OF MAJOR DEPRESSION USING PROPENSITY SCORE METHODS

Serres: University of Southern California, Charleston, SC, USA, 2Neuronetics, Inc., Malvern, PA, USA

OBJECTIVES: Transcranial magnetic stimulation (TMS) is FDA cleared for use in pharmacologically intractable depression, and fasting glucose is an important predictor of TMS efficacy and safety. However, TMS has not been directly compared to pharmacotherapy. Propensity score methodology was used to compare the effectiveness of TMS to pharmacotherapy. Prospectively collected data from a pragmatic study of 305 patients who received TMS or tricyclic antidepressants (TCAs) who practiced the STAR*D study treatment of depression were used.

METHODS: TMS patients were propensity-score matched to STAR*D patients on baseline characteristics using a 1:1.41 matching algorithm. An unequal drug resistance distribution in the two populations allowed only 222 patients to match well on the first attempt. A subsequent re-matching of the remaining TMS subjects to the full STAR*D control population was performed to produce a complete match. This “double-dipping” approach enabled a successful complete match for all 305 TMS patients.

RESULTS: The matched STAR*D and TMS populations were similar at baseline. QIDS-SR outcomes at 6 weeks showed that the TMS group had a greater clinical improvement (P<0.0001). At 6-weeks 53% of TMS patients had no or mild depression versus 38% for STAR*D (P=0.0023). Sensitivity analysis was used to estimate the potential effects of any remaining selection biasing factors, and confirmed an unlikely impact on results.

CONCLUSIONS: The varying distribution of the severity of baseline treatment resistance between the TMS and STAR*D populations made it impossible to achieve a complete match in the first matching attempt. Subsequent, “double-dipping” allowed tight matching on baseline variables. The accepted the risk to internal validity posed by the remaining selection bias or confounding and the small impact to variability due to non-independence, in exchange for gaining an increased external validity for this difficult to match group. Matching hard-to-match groups requires a trade-off between risks to internal and external validity.

PMH12 BENEFITS OF A PATIENT-ASSISTED MEDICATION ADHERENCE PROGRAM FOR LONG-ACTING INJECTABLE Risperidone ON HIGH-COST OUTCOMES IN SCHIZOPHRENIA


OBJECTIVES: Poor adherence to antipsychotics in schizophrenia is common and may result in increased hospitalization, increased risk of suicide, and increased healthcare costs. The objective was to evaluate the effectiveness of a patient-assisted medication adherence program (PAMAP) on psychiatric hospitalization rates among schizophrenic patients treated with long-acting injectable risperidone (RLAI).

METHODS: Between January 2009 and January 2013, patient records of 36 patients who were prescribed risperidone ER were reviewed. Patients who had received PAMAP for RLAI were recruited from 36 centers in France and followed for 1 year. The PAMAP consisted of calling patients 48 hours prior to their scheduled RLAI injection. Patients missed appointments were contacted by PAMAP to ≥50% of injections. Adherent patients received ≥80% of their injections within 5 days of the scheduled date. Otherwise, patients and centers were non-adherent. Poisson regression was used to derive rate ratios (RR) comparing rates of hospitalization rates among adherent and non-adherent patients and centers. Propensity scores were used to derive adjusted RRs. RESULTS: Of 506 recruited patients, 95.7% were followed up to 1 year (average age: 38.7; 64.6% males; 60.8% had had a history of hospitalization). Overall hospitalization rate was associated with PAMAP (crude RR: 0.84 [95% CI: 0.64-0.93]; adjusted RR: 0.78 [95% CI: 0.65-0.97]). Nearly 75% of patients were adherent but adherence was not associated with disease severity nor with reduced hospitalization rates. The effect of PAMAP on hospitalizations rates was greater among non-adherent (adjusted RR: 0.45 [95% CI: 0.36-1.28]) than adherent patients (adjusted RR: 0.88 [95% CI: 0.51-1.53]). CONCLUSIONS: Adherence among schizophrenia patients partaking in a PAMAP for RLAI was high. PAMAP may reduce psychiatric hospitalization risk for schizophrenia patients with problems adhering to long-acting injectable antipsychotics treatment regimens.

PMH13 EVALUATING THE IMPACT OF CANNABIS USE ON METABOLIC SYNDROME USING DATA FROM THE CONTINUOUS NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY

Kheirat J1, LaBoyre Y1, Wlasyk CA2
1University of Southern California, Los Angeles, CA, USA

OBJECTIVES: Cannabis is the most commonly used illicit substance in the United States. Usage rates have climbed in recent years, underscoring the need for knowledge about its effects on factors associated with metabolic health problems, such as heart disease and diabetes mellitus. Some studies suggest that cannabis use is associated with improvements in weight, BMI, and insulin resistance. METHODS: Data on 4,267 persons from Continuous National Health and Nutrition Examination Survey (NHANES) from 2005 to 2010 was used to explore the relationship between cannabis use and factors of metabolic syndrome, including fasting insulin, glucose, insulin resistance, hemoglobin A1c, triglycerides, HDL cholesterol, BMI, waist circumference, and blood pressure. These relationships were first estimated with ordinary least squares (OLS) models. Next, instrumental variables (IV) methods were utilized to test and account for the potential endogeneity of cannabis use in the model. The IV models used sex behavioral variables as instruments for past and current use of cannabis. The second used past cannabis use as an instrument for current use. RESULTS: OLS models show lower fasting insulin, insulin resistance, BMI, and waist circumference in past cannabis users compared to controls. However, never having or never using cannabis. In the first IV model, the coefficients on cannabis use are mostly non-significant. When past cannabis use is an instrument for current use, the results for fasting insulin, insulin resistance, and BMI are significant in the opposite direction from the OLS results. Durbin-Watson-Hausman tests provide evidence of endogeneity of cannabis use for some outcomes. CONCLUSIONS: Models of the relationship between cannabis and health should account for endogeneity. Results of two-stage least squares estimation are inconsistent with OLS results, challenging the robustness of findings that indicate a positive relationship between cannabis use and fasting insulin, insulin resistance, BMI, and waist circumference.

PMH14 RISK OF PSYCHOSEXUAL DYSFUNCTION BETWEEN USERS OF SELECTIVE SEROTONIN REUPTAKE INHIBITORS AND SEROTONIN NOREPINEPHRINE REUPTAKE INHIBITORS

Shewale AS1, Shah A, Painter J2
1University of Arkansas for Medical Sciences, Little Rock, AR, USA

OBJECTIVES: Newer antidepressants selective serotonin reuptake inhibitors (SSRIs) and serotonin norepinephrine reuptake inhibitors (SNRIs) are the most commonly prescribed antidepressants. This is due mostly to their better side effect profile when compared to older drugs like tricyclic antidepressants (TCAs). However these classes are not completely bereft of side effects. Psychosexual dysfunction is a condition that occurs commonly among depressed patients. It has been shown to be associated with antidepressant. The objective of our study was to compare the incidence of psychosexual dysfunction between TCAs, SSRIs, and SNRIs. METHODS: We used a cohort study design in an administrative claims database (2006-2013 Lifeline claims data) to compare the incidence of psychosexual dysfunction in TCAs, SSRIs, and SNRIs. In the database, there was reported psychosexual dysfunction and the study hazard ratio model was used to assess the risk of adverse events while adjusting for potential confounders. RESULTS: A total of 269489 patients with an incident prescription for TCAs, SSRIs or SNRIs were included and matched to the study observed cohort. They constituted a total of 682,675 person years. The unadjusted hazard ratio of incidence of psychosexual dysfunction in patients on SSRIs compared to SSRIs was 1.625 (1.506-1.755). The results were consistent after adjusting for various covariates using the matching of similar hazard ratios. The HR was 1.429 (1.323-1.545) and for the reduced model with covariates identified using stepwise regression was 1.431(1.325-1.546). The directionality of covariates adjusted for at the analysis was consistent with current literature. CONCLUSIONS: SSRIs were associated with a greater risk of psychosexual dysfunction than TCAs.