months from index date were identified. ADs were categorized as tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs), and new antidepressants (NAs). The adherence measures of AD therapy include 90-days medication possession ratio (MPR; <75% as nonadherence), persistence (duration of uninterrupted therapy >90 days with 14-days allowed, non-admissible gap), and switching of AD class within 180-days were used. Relapse was defined as hospitalization or emergency department visit due to depression, suicide attempts, or reinstitution of AD therapy after at least 6 months from previous AD treatment. Cox proportional hazard model was used to estimate rates of relapse with 95% confidence intervals for each adherence measure. RESULTS: A total of 88,079 patients satisfied the selection criteria, among which mean age of 45.2 years and 67.3% of women. Overall relapse rate was 29.5%. Adherence (MPR≥75%) or persistence (duration of uninterrupted therapy >90 days) showed non-significantly decreased risk of relapse (aRR= 0.996 [97.1-1.02]) and 1.010 [97.1-1.04], respectively). Participants who switched AD class within 180 days showed increased risk of relapse (aRR=1.18 [1.15-1.21]). CONCLUSIONS: Various definitions of adherence led to different estimates of relapse rate. Diverse aspects of adherence should be considered when studying the association between the medication adherence and clinical outcomes.

PM182
VALIDATION AND PSYCHOMETRIC EVALUATION OF A BRIEF COMBINED ASSESSMENT OF DEPRESSION AND ANXIETY
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OBJECTIVES: The Patient Health Questionnaire-4 (PHQ-4) and Kroenke, 2009 is a composite instrument constructed from the GAD-2 and PHQ-2 questionnaires assessment of the instruments. The study reviewed three approaches for CFA-based power analyses: N:q rule-of-thumb, N:Q formula, and Monte Carlo simulation (MC). METHODS: For n:Q, a total of 22 free parameters were present, thereby requiring between 220 and 440 subjects. RMSEA-BSS was calculated using a free website (people.ku.edu/~preacher/rtmsrea/ rmsea_bss.html) resulting in a sample size estimate of 283 (alpha = 0.05, CFA df=31, power = 0.8, RMSEA criterion = 0.06, and RMSEA estimate = 0.02). A sample size of 183 was calculated using MC. CONCLUSIONS: N is simple yet the least accurate technique used. The RMSEA-BSS approach is not as accurate nor as flexible as MC, nor as computationally expensive as other approaches. However, and often provides sufficient accuracy. The MC is sophisticated and highly accurate; it can include almost any latent modeling variant, thereby allowing for excellent specificity, its only downside is its complexity. The current CFA in MC provided a marked savings in sample size.

PM184
PERFORMANCE OF TWO INSTRUMENTAL VARIABLES TO EXAMINE THE RISK OF DEATH IN DUAL ELIGIBLE ELDERLY NURSING HOME RESIDENTS USING ANTIPSYCHOTIC AGENTS
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OBJECTIVES: To evaluate the performance of two instrumental variables, namely physician and nursing home facility preference, to examine the risk of death in dual eligible elderly nursing home residents using antipsychotic agents. METHODS: A retrospective cohort design involving dual eligible nursing home residents 65 years and above was used. An instrumental variable analysis was conducted to evaluate the risk of mortality within 180 days of antipsychotic exposure. The first instrumental variable was operationalized based on the most recent antipsychotic prescription initiated by the physician. Nursing home facility preference was defined as the most frequently initiated antipsychotic agent in the nursing home. The performance of each instrument was evaluated based on the strength of association, covariate balance, and explanatory power in addition to endogeneity tests. The risk of death was modeled using extended Cox Proportional Hazard model based on two-stage residual inclusion method for instrumental variable analysis. RESULTS: Physician preference (Odd Ratio (OR) 3.97) and nursing home facility preference (OR 4.54) were strongly associated with antipsychotic use. The explanatory power in the multivariate models and covariate balance in the preference groups were similar with both instruments. Instrumental variable analysis involving physician preference, however, did not meet the criteria for endogeneity (Wu-Hausman F = 1.49, F = 0.22). Using nursing home facility preference as an instrumental variable model revealed that risk of death is greater among typical antipsychotic users in the initial 40 days [Hazard Ratio (HR) 2.76, 95% CI 1.13-6.32] but decreases after decreases at 40 days [HR 1.44, 95% CI 1.10-1.88] when compared to atypical users. CONCLUSIONS: Nursing home facility preference appears to be valid in accounting for the provider member organization to recruit sites; 2) the need for buy-in from site management; 3) the importance of identifying dedicated staff committed to research endeavors; 4) the importance of selection of instruments that balance data collection burden and the desire for a variety of outcome measures; 5) benefits of vetting the draft protocol with potential sites to assess feasibility; and 6) the importance of working with sites to address individual needs (e.g., local internal review board approval). CONCLUSIONS: Registry studies focusing on patients treated by safety net providers, often with limited research experience, require unique considerations. Working closely with sites up-front and obtaining feedback from site management and research staff have been crucial to REACH OUT thus far.

Neurological Disorders – Clinical Outcomes Studies

PND1
PRESCRIBING PATTERNS OF DRUGS HAVING ANTICHOLINERGIC ACTIVITY IN PATIENTS WITH ALZHEIMER’S DISEASE
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OBJECTIVES: Co-prescription of anticholinergic drugs with the traditional cholinesterase inhibitors is known to increase risk of cognitive impairment, yet current guidelines recommend against such combinations. The current study evaluates the prescribing patterns of anticholinergic drugs in patients with dementia due to Alzheimer’s disease (AD) in the U.S. We hypothesized that prescribing anticholinergic drugs is common and that such prescribing is more frequent in patients with AD than in other dementia subtypes. METHODS: A retrospective cohort design involving dual eligible nursing home residents 65 years and above was used. An instrumental variable analysis was conducted to evaluate the risk of mortality within 180 days of antipsychotic exposure. The first instrumental variable was operationalized based on the most recent antipsychotic prescription initiated by the physician. Nursing home facility preference was defined as the most frequently initiated antipsychotic agent in the nursing home. The performance of each instrument was evaluated based on the strength of association, covariate balance, and explanatory power in addition to endogeneity tests. The risk of death was modeled using extended Cox Proportional Hazard model based on two-stage residual inclusion method for instrumental variable analysis. RESULTS: Physician preference (Odd Ratio (OR) 3.97) and nursing home facility preference (OR 4.54) were strongly associated with antipsychotic use. The explanatory power in the multivariate models and covariate balance in the preference groups were similar with both instruments. Instrumental variable analysis involving physician preference, however, did not meet the criteria for endogeneity (Wu-Hausman F = 1.49, F = 0.22). Using nursing home facility preference as an instrumental variable model revealed that risk of death is greater among typical antipsychotic users in the initial 40 days [Hazard Ratio (HR) 2.76, 95% CI 1.13-6.32] but decreases after decreases at 40 days [HR 1.44, 95% CI 1.10-1.88] when compared to atypical users. CONCLUSIONS: Nursing home facility preference appears to be valid in accounting for the provider member organization to recruit sites; 2) the need for buy-in from site management; 3) the importance of identifying dedicated staff committed to research endeavors; 4) the importance of selection of instruments that balance data collection burden and the desire for a variety of outcome measures; 5) benefits of vetting the draft protocol with potential sites to assess feasibility; and 6) the importance of working with sites to address individual needs (e.g., local internal review board approval). CONCLUSIONS: Registry studies focusing on patients treated by safety net providers, often with limited research experience, require unique considerations. Working closely with sites up-front and obtaining feedback from site management and research staff have been crucial to REACH OUT thus far.