daily per patient ICU costs across the six ICUs was $3060 and $3663 in the pre and the post period respectively and the average daily per patient floor costs was $1439 and $1551 in the pre and the post period respectively. The average LOS across the 6 ICUs increased from 4.5 to 5.3 days. There was no significant difference (p > 0.05) in the average mortality rate in the pre and the post period across the 6 ICUs. CONCLUSION: Unlike in previous studies, Tele-ICU monitoring increased hospital costs and length of stay.

RESEARCH ON METHODS & CONCEPTUAL PAPERS—Database Studies & Management

USE OF POTENTIALLY INAPPROPRIATE PSYCHOACTIVE MEDICATIONS AND FALLS IN U.S. NURSING HOME RESIDENTS

Agashivala N, Wu W
St. John's University, NY, NY, USA

Use of Potentially Inappropriately Psychoactive Medications (PIPM) poses a serious threat of falls among elderly nursing home residents. With this objective, the study was conducted to identify the effects of PIPMs on falls among nursing home residents. The 2004 National Nursing Home Survey (NNHS) was used as the data source. Logistic regression was performed to ascertain the relationship between residents’ falls in the past 180 days and use of PIPM as per Beers’ criteria in the presence of other risk factors. The data analysis was performed using SAS 9.1. The 2004 NNHS includes 1174 facilities consisting of 3868 males and 9639 females. The mean age of the residents was 80.5 ± 12.97 years. The residents who fell were older than the residents who did not fall (82.46 vs. 79.5 years, p < 0.0001). Residents on PIPM were at an increased risk of falling compared to those who did not take PIPMs (odds = 1.295, p < 0.0001). Residents suffering from mental disorders fell more compared to the other group (odds = 1.316, p < 0.0001). Residents’ fall-risk increased with an increase in the number of impaired ADLs (odds = 1.158, p < 0.0001). The fall-risk also increased with advance of age (odds = 1.017, p < 0.0001). Use of bedrails had a protective effect on residents fall-risk (odds = 0.652, p < 0.0001). In addition to these factors, male gender (odds = 1.247, p < 0.0001) and white race (odds = 1.485, p < 0.0001) were also significant risk factors. Among facility factors, being a non-profit facility (n = 467) was associated with a higher risk of falls (odds = 1.133, p < 0.0001). Prevention of falls in elderly nursing home residents remains a challenge. PIPMs are still prescribed to elderly nursing home residents. Access to appropriate psychoactive medications should be ensured. Residents with the identified risk factors should be closely monitored. Further research should be pursued to evaluate the impact of medications in other therapeutic categories and facility factors on falls.

DETERMINING THE MECHANISM OF MISSING DATA IN INCOMPLETE DATASETS

Whillans P1, Tarride JE2, Blackhouse G2, Hopkins R2, Goeree RA2
1Dymaxium Inc, Toronto, ON, Canada, 2McMaster University, Hamilton, ON, Canada

OBJECTIVES: In any study involving individual level data, the problems associated with incomplete observations are an obstacle to analysis. For this reason methods have been developed to complete these datasets. Multiple imputation is considered the most robust method of handling missing data, however it is also the most complex and computationally intensive. Whether multiple imputation is needed depends on the mechanism of the missing data. For example, if data is missing completely at random simpler methods can be used. For this reason, we conduct an analysis to inform the appropriate imputation method by identifying the mechanism of missing data. METHODS: To determine the mechanism of missing data we fit a probit model to a dataset from a study comparing the use of Endovascular Repair (EVAR) versus the use of Open Surgical Repair (OSR) in repairing Abdominal Aortic Aneurisms. From this we determined the appropriate method to complete the dataset. We then ran a sensitivity analysis on the different methods to determine the potential consequence of utilizing the inappropriate method. RESULTS: The results of the probit model indicated that the dataset had data which was missing at random and thus the missingness is predictable by observables in the dataset. This implied that the most appropriate method is imputation by stochastic regression or multiple imputation (the stronger of the two methods). The sensitivity analysis, however, showed no statistically significant difference between the two methods in terms of QALYs—total QALY difference between EVAR and OSR: -0.09982(-0.13202,-0.0670) for SR and -0.0866(-0.12344,-0.04977) with significant deviations from other methods. CONCLUSIONS: This study demonstrates the