

# 6<sup>th</sup> World Nursing and Healthcare Conference

August 15-17, 2016 London, UK

## Development and validation of a delirium prediction scoring system for major general surgery

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**Purpose:** The aim was to develop and validate a delirium prediction scoring system that allows identification of individuals with a high probability of postoperative delirium at the end of surgery based on preoperative and immediate postoperative data.

**Methods:** This was prospective study and consisted of (1) The development of delirium prediction scoring system and (2) validation of developed system. The first part of the study was included 561 patients and the second part of the study was included 553 patients. Collected hospital information was potential risk factors of postoperative delirium identified by conducting a comprehensive review of the literature.

**Results:** The risk factors for post-operative delirium included 18 predisposing factors and 15 precipitating factors in univariate analysis. Logistic regression analysis identified the following 9 risk factors: old age, reduced physical activity, heavy alcoholism, previous history of delirium, hearing difficulty, emergency surgery, open surgery, C-reactive protein >10 mg/dL and ICU admission. The delirium prediction score was developed with these 9 risk factors and the maximal score was 16. A high risk of postoperative delirium was defined as a score of more than 7. Validation of the delirium prediction scoring system resulted in the following values: AUC 0.943; sensitivity, 84.2%; specificity, 86.8%; PPV, 57.1% and NPV 96.3.

**Conclusion:** The delirium prediction scoring system is a simple predictive model for postoperative delirium based on 9 risk factors. Patients at higher delirium risk need to be monitored closely to prevent or mitigate post-operative delirium after major general surgery.

### Biography

Minyoung Kim has completed her PhD and is an Assistant Professor from Ulsan University School of Nursing. She is the Adult Health advanced practice nurse for 10 years. She has published 9 papers in reputed journals.

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