

## **P159: Low Cognitive Reserve as a Risk Factor for Delirium in Elderly: A Case-Control Study**

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**Objective:** Cognitive Reserve (CR) developed from observation that several individuals show fewer cognitive impairment compared to others with the same brain injuries or neuropathology. Cognitive reserve is a potentially modifiable characteristic. Most of studies on cognitive reserve were conducted on chronic progressive diseases such as dementia. This study aims to define the role of cognitive reserve in geriatric delirium cases.

**Methods:** This case-control study was conducted in the acute geriatric inpatient of Cipto Mangunkusumo Hospital, Jakarta, Indonesia on June to September 2019 that consisted of 33 subjects with delirium and 33 controls. The measurement of cognitive reserve was done using the Indonesian adaptation of Cognitive Reserve Index questionnaire (CRIq) with 3 subscales, i.e. Education, Work Activity and Leisure Time.

**Results:** We found that the CRIq scores of delirium patients were lower compared to the non-delirium controls both on total and each subscores, with a statistically significant mean difference ( $p < 0,01$ ). Patients with low-medium cognitive reserve also more likely to develop delirium compared to those with medium-high cognitive reserve (OR 9; 95% CI 2.86 to 28.22).

**Conclusion:** Low cognitive reserve may serve as a risk factor for delirium in the elderly. The measure of CRI in the geriatric inpatients unit can be used to determine those at risk of developing delirium. Further research are warranted to elaborate potentially modifiable variables of cognitive reserve to minimize the risk of delirium.

**Keywords:** cognitive reserve, delirium, elderly.

## **P161: Heterogeneity and Clinical Uncertainty of BPSD Therapeutics**

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**Objective:** BPSD is typically treated as a singular entity. Yet it is heterogeneous and challenges simple phenotyping by behavioral inventory. Some investigators recognize BPSD more as 'obstreperous,' disruptive behavior, or unwanted behavior. Others conceptualize it as a neuropsychiatric entity with an underlying pathobiology, or as the expression of an unmet need. Treatments for BPSD have been challenging since before the first clinical trials with chlorpromazine.

**Methods:** We systematically reviewed interventional studies to understand the successes, limitations, and knowledge gaps in terms of methodology that might misinform practice. Questions addressed included: What do these studies look like? How is BPRS operationalized, and does it vary between studies? What interventions have been tested? How are we measuring eligibility and outcomes? Are there methodological factors that influence the outcomes and validity of these trials? Are the trials methods fit for purpose and how can we better test interventions?

**Results:** From a search yielding 6497 candidate studies, we included 474 of which 413 were randomized, 340 parallel group, 197 double-blinded, 51 unblinded. About 30% were in nursing homes only and 20% outpatient only. Most NH studies were drug studies; most outpatient studies were non-pharmacological. Over time, study durations consolidated to 6–12-week treatment periods and samples grew exceptionally large, involving 400 to 1200 participants.

Of studies that specified a target, 171 were for 'agitation.' 50 investigated sleep disturbance, 25 apathy, 25 depression, 21 psychosis. 150 described only 'BPSD' or 'neuropsychiatric symptoms.' Two-thirds of the agitation