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## The prevalence of cognitive frailty, pre-frailty among the elderly in Bangkok metropolitan area: a multicenter study of hospital-based outpatient clinic

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**Introduction** Cognitive frailty is a defined pre-disability geriatric syndrome leading to an increased dependency and vulnerability to death. It has been suggested as a better predictor of health status than the presence of disease. This condition may be reversible by exercise, healthy diet, cardiovascular risk reduction, social participation and cognitively active lifestyle. However, currently there is limited population study regarding cognitive frailty. The purpose was to greater understand the magnitude of a problem and identify associated factor.

**Objective:** The primary objective was to determine the prevalence and identify factors associated with cognitive frailty in a sample of hospital-based outpatient clinic in Bangkok metropolitan region. The secondary objective was to investigate the correlation between the Frailty Phenotype and FRAIL scale.

**Methods:** This is a cross-sectional study conducted at outpatient clinic of medical department of a total of 195 older adults from Siriraj Hospital, Lerdsin Hospital and Krathum Baen Hospital. Data collected were demographic information, medical history, lifestyle factors, functional status and mood assessment. Physical frailty was determined by at least 3 of 5 domains of Modified Fried Frailty Phenotype and FRAIL Scale. Mild cognitive impairment was defined by TMSE  $\geq$  24 and MoCA-B  $<$  25 with no functional impairment. Cognitive frailty was defined as physical frailty plus MCI. Cognitive pre-frailty was defined as positive one or two domains of Frailty Phenotype plus MCI.

**Results:** The mean age was 68.3 years. The prevalence of pre-frailty, frailty, MCI, cognitive pre-frailty and cognitive frailty was 57.4%, 15.9%, 26.2%, 14.4% and 6.7%, respectively. The multivariate analysis showed that aging (OR 5.34; 95%CI 2.06-12.63), low educational level (primary school or under: OR 4.18; 95%CI 1.61-10.82) were associated with cognitive frailty and cognitive pre-frailty. The correlation between physical frailty rated by Modified Fried Frailty Phenotype and FRAIL Scale was good (Kappa coefficient = 0.741). FRAIL Scale yielded nearly similar prevalence of pre-frailty and frailty.

**Conclusion:** This study showed relatively high prevalence of cognitive frailty compared to the previous reports which requires screening for early diagnosis and multimodal lifestyle interventions. The higher prevalence in this study might be from different population characteristics and measures of the conditions which are slightly varied among studies. Age and low educational level were related to cognitive frailty/ prefrailty. FRAIL scale yielded high correlation with Frailty phenotypes implying its benefit in routine clinical use in limited time and resource.

**Keywords:** Frailty, Cognitive Impairment, Cognitive Frailty, Older