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Analysis of Elevated Fasting Glucose Levels, Insulin Resistance and Cognitive Function in Elderly with Diabetes Mellitus

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Background: The number of elderly globally in the world is on the rise. The effects of increasing the number of elderly include degenerative disease problems will often accompany chronic and multipatologist in elderly, including diabetes mellitus disease. Previous research has supported the association of diabetes mellitus with cognitive function, although the mechanism is unclear.

Objectives: To determine the relationship of elevated fasting glucose levels, insulin resistance and cognitive function in elderly patients with diabetes mellitus.

Methods: This research used cross sectional method, This study was conducted in the elderly population in yogyakarta Indonesia. 120 elderly patients with Diabetes Mellitus who fulfill the inclusion and exclusion criteria are tested for fasting blood glucose, insulin resistance calculated by HOMA –IR index and cognitive function examined with Mini Mental State Examination (MMSE). This study used statistical test with correlation analysis to determine the relationship of fasting glucose levels, insulin resistance is assessed based on IR HOMA-IR index with cognitive function of elderly patients with Diabetes Mellitus.

Results and Conclusion: There was a correlation between elevated fasting blood glucose levels with cognitive function ($p < 0.05$) and there was a correlation between insulin resistance and cognitive impairment in elderly patients with diabetes mellitus. ($P < 0.05$).

Keywords: Fasting blood glucose level-Insulin resistance-cognitive function-Elderly with DM