A 37-YEAR FOLLOW-UP OF BODY MASS INDEX AND DEMENTIA. OBSERVATIONS FROM THE PROSPECTIVE POPULATION STUDY OF WOMEN IN GOTHENBURG, SWEDEN

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Introduction: Level of adiposity is linked to dementia in epidemiological studies. Overweight and obesity in mid- and late-life may increase dementia risk, whereas underweight in years preceding and at the time of a dementia diagnosis may relate to dementia. Decline in body weight or body mass index (BMI) occurs before clinical dementia onset. Longitudinal studies with sufficient follow-up are necessary to estimate trajectories to better understand the relationship between adiposity and dementia over the life course.

Aims: To evaluate the natural history of BMI in relationship to clinical dementia over 37 years.

Methods: The Prospective Population Study of Women (PPSW) in Gothenburg, Sweden (n=1462, baseline age 38-60 years) with examinations in 1968, 1974, 1980, 1992, 2000 and 2005. Dementia was diagnosed using DSM-IIIR criteria and BMI was calculated from body weight and height. Statistical analyses included mixed effects regression models.

Results: Trajectories of BMI over 37 years as a function of age differed between women who did versus did not develop dementia. Women developing dementia evidenced a lesser increase in BMI from age 38 to 70 years. After age 70, the BMI slope decreased similarly irrespective of dementia status. A lower BMI among women before and during dementia onset was observed.

Conclusions: Dementia is related to a modifiable risk factor, BMI, from mid-to late-life. Women with similar BMI at mid-life exhibited a different pattern of BMI change as they approached late-life that was related to dementia onset. BMI may be a marker of dementia-related neuropathologies in the brain.