# Decline in Cognitive Function and Elder Mistreatment: Findings from the Chicago Health and Aging Project

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**Objective:** *This study aimed to examine the longitudinal association between decline in cognitive function and elder mistreatment (EM).* **Methods:** *Chicago Health and Aging Project (CHAP) is an epidemiologic study conducted in a geographically defined community (N = 6,159). We identified 143 CHAP participants who had longitudinal cognitive data and EM reported to social services agency. The primary predictor was cognitive function, which was assessed using the Mini-Mental State Examination (MMSE), the Symbol Digit Modalities Test (Perceptual Speed), and both immediate and delayed recall of the East Boston Memory Test (Episodic Memory). An index of global cognitive function scores was derived by averaging z scores of all tests. Logistic regression models were used to assess the association of cognitive function domains and risk for EM.* **Results:** *After adjusting for potential confounders, every one-point decline in global cognitive function (odds ratio [OR]: 1.57 [1.21−2.03]), MMSE (OR: 1.07 [1.03−1.10]), Episodic Memory (OR: 1.46 [1.14−1.86]), and Perceptual Speed (OR: 1.05 [1.02−1.07]) scores were associated with increased risk for EM. Lowest tertiles in global cognitive function (OR: 2.71 [1.49−4.88]), MMSE (OR: 2.02 [1.07−3.80]), Episodic Memory (OR: 2.70 [1.41−5.16]), and Perceptual Speed (OR: 4.41 [2.22−8.76]) scores were associated with increased risk for EM.* **Conclusion:** *Decline in global cognitive function, MMSE, and Perceptual Speed scores were associated with increased risk for EM.* (Am J Geriatr Psychiatry 2014; 22:598−605)

**Key Words:** Elder mistreatment, cognitive decline, epidemiologic study

Elder mistreatment (EM) is a substantial global public health and human rights problem. The World Health Organization declared EM to be a violation of a human being's most basic fundamental right, to be safe and free from violence.[1] EM includes physical abuse, sexual abuse, emotional abuse, caregiver neglect, and financial abuse. Available data suggest that 1 of 10 U.S. elderly persons experiences abuse each year, and many of them experience it in multiple forms.[2,3] In addition, data from U.S. Adult Protective Services Agencies depict an increasing trend in the reporting of EM as well as the significant under-reporting of EM to social services agencies.[4] This trend is particularly alarming

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because the literature suggests that EM is associated with increased risk of morbidity and mortality.[5–7] The U.S. National Research Council has urgently called for rigorous research on all aspects of EM, especially through epidemiologic studies,[8] as our current understanding of the risk factors for EM in the general population remains limited.

Cognitive function is one of the cornerstones of geriatric medicine, and lower levels of cognition function have been associated with increased morbidity and mortality.[9–16] In addition, prior research suggests EM occurs commonly among those with cognitive impairment and dementia.[17–24] Reports detail that almost 50% of caregivers for those with dementia self-reported some form of EM.[19,25] However, most EM studies involving cognitive impairment and dementia cases are from clinical settings or more selected samples rather than from representative community samples. We are not aware of any epidemiologic studies that have examined the longitudinal association between decline in different cognitive function domains and risk for EM.

Here, we build on the existing literature and examine the longitudinal association between declines in cognitive function and the risk for EM within the context of a longitudinal study. Our underlying hypothesis is that decline in cognitive function is associated with increased risk for EM in a community sample of older adults.

## METHODS

### Design and Participants

The study sample consists of participants from the Chicago Health and Aging Project (CHAP), an epidemiologic study of a geographically defined community. Details of the CHAP study design were described previously.[26,27] Briefly, the study enrolled residents ages 65 years and older in four adjacent neighborhoods on the south side of Chicago after a complete census of the community area. Data collection included an in-person interview conducted in participants' homes. The interviews included standardized questionnaires and tests for the assessment of sociodemographic and socioeconomic data, health history, cognitive function, and health behaviors. As of 2010, a total of 6,179 older adults had participated in the CHAP study. Written informed consent was obtained and the study was approved by the Institutional Review Board at Rush University Medical Center.

### Reporting of EM

Reports of EM to social services agencies can come from a variety of sources, including healthcare and legal professionals, community organizations, city workers (e.g., postal worker, utility worker, etc.), family members, or concerned neighbors or friends who have contact with seniors. In Illinois, EM is only partially mandated for report, that is, reporting is mandatory only for those who are unable to report themselves and for whom abuse has occurred within the last 12 months. EM cases are reported to Illinois Adult Protective Services through the EM Hotline.

### Definition of EM

In Illinois Adult Protective Services, the definition of abuse includes physical abuse, sexual abuse, emotional abuse, confinement, neglect, willful deprivation, and financial exploitation. Physical abuse is defined as inflicting physical pain or injury on an older adult. Sexual abuse is touching, fondling, intercourse, or any other sexual activity with an older adult when the older adult is unable to understand, unwilling to consent, threatened, or physically forced. Emotional abuse involves verbal assaults, threat of abuse, harassment, or intimidation. Confinement is restraining or isolating an older adult other than for medical reasons. Neglect is a caregiver's failure to provide an older adult with life's necessities, including, but not limited to, food, clothing, shelter, or medical care. Willful deprivation is defined as willfully denying an older adult medication, medical care, shelter, food, a therapeutic device, or other physical assistance and thereby exposing that person to the risk of physical, mental, or emotional harm, except when the older adult has expressed capacity to understand the consequences and intent to forgo such care. Financial exploitation includes the misuse or withholding of an older adult's resources by another to the disadvantage of the elderly person or the profit or advantage of someone else. Confirmation of EM is determined by the Adult Protective Services staff based on the specific indicators and are categorized as a subset of the reported EM in this study.