Review Title: Elucidating the relationship between physical functioning decline and risk of elder mistreatment

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Article Summary:

Brief Overview:

Elder mistreatment includes emotional, physical, sexual and financial abuse or neglect towards an elderly person by a person in a relationship of trust. Among community-dwelling elders in the United States, elder abuse/neglect has an estimated one-year prevalence of 7.6% - 11.4% and crosses all socio-demographic strata of the aging population. This pervasive problem is associated with detrimental health and psychosocial consequences including increased risk of mortality, hospitalization, emergency service use, nursing home placement, permanent disability, chronic pain, social isolation, psychological disturbance and poor physical health. Risk factors for elder mistreatment remain misunderstood, in part due to a lack of longitudinal study designs. In particular, physical vulnerability has shown conflicting findings as a risk factor for elder abuse and neglect in the literature.

Aims of the article:

Authors of the article under review examined the...
prospective association between elder physical functioning and reported elder mistreatment to social services. Controlling for key confounding socio-demographic, medical and social support factors, the authors examined hypotheses that a decline in physical functioning would be associated with greater risk of reported elder mistreatment and that the degree of association would vary according to the measure of physical functioning and the sub-type of elder mistreatment.

**Relevant findings:**
Employing an innovative longitudinal study design, the authors matched physical functioning data from participants in the Chicago Health and Aging Project (CHAP) with elder abuse cases reported to social service agencies between 1993 and 2010. Physical functioning was measured over time using both directly observable physical performance tests (tandem stand, measured walk, chair stand) and self-report scales of activities of daily living (ADL) (Katz Index), mobility (Rosow-Breslau scale), and physical activity (Nagi scale). Differences in physical functioning scores over time were calculated based on the changes in physical function measures. The three observable performance tests resulted in three continuous sub-scale scores and a continuous summary score. The three self-report scales resulted in three separate, continuous scores. Physical functioning change scores were also converted into ordinal tertile variables to increase clinical relevance. Elder mistreatment was operationalized as an aggregate variable, disaggregated subtypes (physical abuse, sexual abuse, emotional abuse, financial exploitation, caregiver neglect), and according to the number of sub-types reported to social services.

Among 6159 CHAP participants aged 65 or above, 143 elders were reported to a social service agency for elder abuse/neglect and 75 of these cases were confirmed. Separate logistic regression models were used to examine associations between each physical functioning measure and the elder mistreatment outcome, while controlling for the following covariates: age, sex, race, education, income, medical conditions (hypertension, diabetes mellitus, stroke, cancer, shingles, Parkinson’s disease, thyroid disease, coronary artery disease, hip fracture), cognitive function, depressive symptoms, social network, and social engagement.

Measured continuously, decline in performance test summary score and impairment in self-reported ADL, mobility, and physical activity were associated with increased risk of aggregate elder mistreatment. As ordinal variables, the lowest tertiles of performance test summary score and chair stand sub-scale score, as well as the greatest declines in self-reported ADL, mobility and physical activity scales, were associated with increased risk of aggregate elder mistreatment.

As an elder mistreatment sub-type, psychological abuse was associated with a decline in performance test summary score and self-reported physical activity impairment. Elder neglect was associated with a decline in performance test summary score; self-reported ADL, mobility and physical activity impairments; as well as the lowest tertile of self-reported mobility score. There were no associations between changes in physical functioning and risks of physical abuse, sexual abuse, and financial exploitation sub-types. As described below, this may have been due to the limited sample sizes in the sub-type categories.

The occurrence of multiple forms of reported elder abuse/ neglect was associated with a decline in performance test
A summary score, impairment in self-reported ADL and physical activity, as well as the lowest and middle tertiles of self-reported ADL impairment.

**Authors' Conclusions:**
Decline in observable physical performance testing and greater impairment in self-reported physical functioning were associated with increased risk of reported elder mistreatment. The degree of association between physical functioning measures and reported elder mistreatment varied according to specific elder abuse/neglect sub-type. Finally, a decline in overall performance testing and impairment in self-reported ADL and physical activity were associated with multiple forms of elder mistreatment.

**Potential Limitations:**
Identification of elder mistreatment using social service agency data introduced bias and threat to external validity. Research has found that the vast majority of elder mistreatment victims in the general population remain hidden in the community without ever interfacing with a social service agency. Therefore, results in this study pertain to a sub-sample of documented victims with potentially different attributes compared to the general population of victims. The group in this study analyzed as non-mistreatment participants may have included victims of elder mistreatment who never entered the social service system.

Sample participants with reported elder mistreatment had lower physical functioning scores at baseline compared to participants without elder mistreatment, raising a concern that vulnerability to mistreatment stemmed from low initial physical functioning as opposed to a decline in functioning over time; however, the authors point out that, despite lower baseline levels, participants with elder mistreatment also demonstrated a larger decline in physical functioning over time compared to those without mistreatment. The authors acknowledge that analyses of elder mistreatment by disaggregated sub-type were limited by low sample sizes in respective categories of abuse or neglect. For example, the physical and sexual abuse sub-types contained only twelve and two participants, respectively. Further research with larger sub-type samples is required to examine the relationship between physical vulnerability and specific elder mistreatment sub-types.

**Reviewer's Comments:**
This study seeks to provide clarity on the murky issue of physical functioning vulnerability as a risk factor for elder mistreatment. Physical vulnerability has long been posited in the literature as a chief risk factor candidate, yet research has not provided definitive support. Intuitively, greater physical vulnerability and dependence would diminish an elder’s ability to defend themselves or escape a potential mistreatment situation. The caregiver stress theory proposes that elder mistreatment occurs when the stress/burden of caregiving for a mentally or physically impaired elder reaches a critical threshold.

Using an innovative longitudinal design, a strong and varied array of physical functioning measures, and comprehensive models controlling for key confounding factors, the study under review provides the most convincing evidence to date that physical functioning vulnerability is a risk factor for elder mistreatment. Novel integration of directly observable physical performance test measures carries immediate clinical implications to health and medical settings. As the authors suggest, screening for elder mistreatment should occur alongside regular monitoring for declines in elder physical functioning in health settings. Findings from
this study highlighted the use of both objective performance tests and/or self-report scales as suitable measures and predictors of elder mistreatment. Social service settings are more likely to use self-report measures to screen for declines in elder physical functioning and should consider such changes as a red flag for increased risk of elder mistreatment. A next research step would be to examine the relationship between physical vulnerability and elder mistreatment in a large, longitudinal, representative study that includes victims of elder abuse sampled from the general population.