Elder Mistreatment and Physical Health among Older Adults: The South Carolina Elder Mistreatment Study

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Abstract

Exposure to potentially traumatic events (PTEs), including interpersonal violence, is associated with poorer physical health in young adults. This relation has not been well-investigated among older adults in specific populations. The present study was designed to investigate whether exposure to PTEs and elder mistreatment are associated with physical health status among older adults residing in South Carolina. 902 older adults aged 60 and above participated in a structured interview assessing elder mistreatment history, PTEs, demographics, and social dependency variables. Results demonstrated that PTEs were associated with poor self-rated health independently and when controlling for other significant predictors. A recent history of emotional mistreatment was associated with poor self-rated health independently, but not when controlling for other significant predictors.

Poor self-rated health is an important predictor of morbidity, mortality, economic burden, and impaired functioning in adults (Idler & Benyamini, 1997). Determining the prevalence and correlates of poor health may inform public health prevention and intervention efforts. Research demonstrates that exposure to potentially traumatic events (PTEs) is linked with poor physical functioning (Kendall-Tackett, 2009; Norman et al., 2006; Sledjeski, Speisman, & Dierker, 2008). Indeed, number of PTEs experienced is associated with higher risk for several medical conditions, even after controlling for posttraumatic stress disorder symptoms (Sledjeski et al., 2008). Given the high prevalence of lifetime exposure to PTEs (i.e., between 50–70% of adults have experienced a PTE; e.g., Kessler, 2000; Norris, 1992; Resnick, Kilpatrick, Dansky, Saunder, & Best, 1993) and strong relationship between PTEs and physical health, a better understanding of this relation within specific populations (e.g., age groups, geographic locale) may have broad public health implications.

One specific population for which health problems are already more likely is older adults in rural settings. However, far less research has investigated the impact of environmental stressors, such as PTEs on physical health among these individuals. This is an important topic of study, given the literature outlining the impact of positive interpersonal relations and productive activity on successful aging (Rowe & Kahn, 1997), as PTE may serve as a threat to the successful aging process and thus impact elder health in an indirect way as well. Aside from the mere presence of this threat, research has found that the ways in which older adults cope with environmental stressors (i.e., PTEs) impacts their well-being. Specifically, researchers have theorized that coping strategies tend to shift with age, such that older adults may be able to adapt to stressful situations more effectively than their younger counterparts,

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who may attempt to instead adapt the environment following PTEs (Cherry, Silva, & Galea, 2009). That being said, older adults may experience increased difficulty coping with challenges and maintaining well-being in the face of PTEs due to the increased likelihood for health problems as they become older. Thus, it is imperative to empirically investigate the link between exposure to PTEs and physical health in older adults in order to identify the impact of these variables on one another.

Extant research has begun to corroborate findings from adult populations, but the literature on the impact of PTEs on physical health is limited to only a handful of studies (Amstadter et al., in press; Krause, Shaw, & Cairney, 2004; Higgins & Follette, 2002; Petkus, Gum, King-Kallimanis, & Wetherell, 2009). Data from two national samples of older adults (Amstadter et al., in press; Krause et al., 2004) found that PTE history was associated with poor self-rated physical health. Although extant research suggests it (Stein & Barrett-Connor, 2000), whether results from national samples are applicable to specific populations such as the rural residing elderly is unclear.

Research in the cognitive aging literature has demonstrated a link between poor self-rated health and negative social exchanges and integration among older adults, which may be present due to the high levels of stress often associated with interpersonal relationships between family and friends (Krause, 1996; Newson, Mahan, Rook, & Krause, 2008; Seeman, 1996). This evidence is consistent with theories suggesting that stress relating to social networks (i.e., family, friends, neighbors) may negatively impact self-rated health, especially among older adults due to their increased vulnerability to the effects of stress (Newsom et al., 2008). In addition to more common stressors associated with interpersonal relationships, elder mistreatment is a specific prevalent stressor often experienced by older adults, with reported abuse rates as high as 10% among geriatric populations (Acierno et al., in press). Although theories would suggest a significant relation between elder mistreatment and physical health, research examining this association has been limited, thus investigating this link among specific populations is clearly necessary.

The present study attempts to address gaps in the literature by investigating whether PTE history and a recent history (i.e., since age 60) of elder mistreatment are associated with poor physical health, among a large sample of older adults residing in South Carolina, a Federally-designated rural state (US Census, 1990). Findings will help determine whether results from large national studies generalize to more specific populations (e.g., rural older adults) and further clarify the association between elder mistreatment and poor physical health.

Method

Sampling

The survey sample was derived using stratified RDD with an area probability sample based on Census-defined 'size of place' parameters (e.g., rural, urban). The state of South Carolina served as the sampling location. A systematic selection procedure (i.e., the 'most recent birthday method') was used to designate one respondent for each household sampled. Interviews were conducted in either English or Spanish, depending on participant preference. Interviewers determined if the designated participant clearly possessed the cognitive capacity to consent to participation, and only these individuals were surveyed. To increase participant privacy and protection, respondents were asked if they were in a place where they could talk privately, and sensitive questions were worded to elicit a "yes/no" response, rather than a description of the mistreatment event. This method yielded a representative sample (based on age and gender) of 902 older adults age 60 or above. Interviewers used standardized Computer Assisted Telephone Interviewing (CATI)

procedures to ask participants about their self-rated health, demographics, a variety of mistreatment experiences, and potential correlates. CATI incorporates complex 'skip-out' patterns which assures only relevant questions are asked of participants, greatly enhancing interview efficiency. Supervisors listening to real-time telephone interviews while monitoring the CATI interview on their own computer performed random checks of each interviewer's assessment behavior and data-entry accuracy at least twice during each shift. If an error was detected, supervisors required its correction and discussed the error with the interviewer following the interview. If the error was detected again in following interviews, the interviewer was removed from the study. The field interviewing commenced on February 6, 2008. The cooperation rate was 82%, and was calculated according to the American Association for Public Opinion Research (AAPOR, 2000) as the number of completed interviews, including those that screen out as ineligible, divided by the total number of completed interviews, including those that screen out as ineligible, terminated interviews, and refusals to interview. The final average interview length was approximately 16 minutes. The present study used the same methodology as that reported in Amstadter and colleagues (in press) and Acierno and colleagues (in press), but the present study is an independent investigation and the present data do not overlap with these other studies.

Risk Factor Definitions

Emotional mistreatment was defined as an affirmative answer to any one of the following: 1. "Has anyone ever verbally attacked, scolded, or yelled at you so that you felt afraid for your safety, threatened or intimidated?" 2. "Has anyone ever made you feel humiliated or embarrassed by calling you names such as stupid, or telling you that you or your opinion was worthless?" 3. "Has anyone ever forcefully or repeatedly asked you to do something so much that you felt harassed or coerced into doing something against your will?" 4. "Has anyone close to you ever completely refused to talk to you or ignored you for days at a time, even when you wanted to talk to them?"

Physical mistreatment was defined as an affirmative answer to any one of the following: 1. "Has anyone ever hit you with their hand or object, slapped you, or threatened you with a weapon?" 2. "Has anyone ever tried to restrain you by holding you down, tying you up, or locking you in your room or house?" 3. "Has anyone ever physically hurt you so that you suffered some degree of injury, including cuts, bruises, or other marks?"

Sexual mistreatment was defined as an affirmative answer to any one of the following three questions: 1. "Regardless of how long ago it happened or who made the advances, has anyone ever made you have sex or oral sex by using force or threatening to harm you or someone close to you?" 2a. (for females) "Has anyone ever touched your breasts or pubic area or made you touch his penis by using force or threat of force?" 2b. (for males) "Has anyone ever touched your pubic area or made you touch their pubic area by using force or threat of force?" 3a. (for females) "Has anyone ever forced you to undress or expose your breasts or pubic area when you didn't want to?" 3b. (for males) "Has anyone ever forced you to undress or expose your pubic area when you didn't want to?"

Risk Factor Variables

Demographic Variables of Participants—Standard demographic variables were assessed, including age (dichotomized into 60–70 and 71+), race/ethnicity, employment status (dichotomized into employed and unemployed), marital status (in three categories: married/cohabitating, single/divorced/separated, and widowed), income (categorized via a median split as an annual household income of $35,000 and below, and $35,001 and above), and sex (as male and female).

Experience of Prior Traumatic Events (Yes vs. No)—Following precedent of previous studies (e.g., Acierno et al., in press; Amstadter et al., in press), participants were asked to report if they had been exposed to the following events *and* indicated fear that they would be killed or seriously injured during this exposure: natural disasters such as earthquake, hurricane, flood, or tornado; serious accident at work, in a car, or somewhere else; or being in any other situation where you thought you would be killed.

Social Support (High vs. Low)—Perceived social support during the past month was assessed via a modified five-item version of the Medical Outcomes Study module for social support (Sherbourne & Stewart, 1991). Participants were asked about emotional (e.g., "someone available to love you and make you feel wanted"); instrumental (e.g., "someone available to help you if you were confined to bed"); and appraisal (e.g., "someone available to give you good advice in a crisis") social support and responded to items using a four-point scale from "none of the time" to "all of the time" (sample range=5–20; *M*=15.7 [*SD*=4.1]). Low social support was operationalized as a score in the lower quartile of the sample ratings, and the comparison high social support was operationalized as a score in the upper quartile of sample ratings.

Use of Social Services (Yes vs. No)—Participants were asked if they had used any of the following programs or services: senior centers or day programs; physical rehabilitation; meals on wheels or any other meal service, social services or health services provided to the home; hospice; formal senior friends services, church group home visits, any other program or service.

Assistance Required with Activities of Daily Living (Yes vs. No)—Participants were asked if they needed help from time to time with the following activities: shopping for groceries or medicines; going to the doctor, transportation to friends, church or temple, paying bills or doing related paperwork, taking medicines, getting dressed, bathing, and eating.

Emotional Symptoms (Yes vs. No)—To assess if participants had been bothered by emotional symptoms, they were asked, "during the past four weeks have you been bothered by emotional problems such as feeling anxious, depressed, or irritable?" This item was dichotomized (not at all/slightly vs moderately/quite a lot/completely).

Outcome Variable

Health Status (Good vs. Poor)—Health status over the prior month was assessed using the general health question number 1 from the World Health Organization Short-Form 36 Health Questionnaire (Ware & Gandek, 1998). Participants were asked to rate the following question: "In general, would you say your health is "Excellent, Very good, Good, Fair, or Poor." These responses were dichotomized into Poor Health (self rating of fair or poor) and Good Health (self rating of excellent, very good, or good). This assessment is consistent with previously validated single item measures of general subjective health, which have shown both good reliability and validity (Sibthorpe, Anderson, & Cunningham, 2001), and has been found related to morbidity and mortality (Grant, Piotrowski, & Chappell, 1995; Idler & Benyamini, 1997).

Results

Poor health was reported by 24.9% (n=223). 49.0% (n = 311) reported low household income, 82.3% (n = 729) reported being unemployed, 62.1% (n = 554) experienced a prior traumatic event, 44.2% (n = 225) reported low levels of social support, 42.5% (n = 374)

used social services of some form, and 37.4% (n = 337) reported needing some assistance with activities of daily living (ADL). Further, 12.9% (n = 116) reported emotional abuse, 2.1% (n = 19) physical abuse, and .3% (n = 3) sexual abuse. 62.1% (n = 554) reported experiencing a PTE. Participants were dichotomized into two age groups: 'younger old' (age 60 to 70; 54.6% (n = 486) of the sample), and 'older old' (age 71+; 45.4% (n = 403) of the sample).

Table 1 presents results of the individual regression models and final regression model.

Demographics

Only income was significantly associated with poor physical health. Those with a household income of less than $35,000 reported poorer health compared to individuals with $35,001 or more annually.

Mistreatment

The frequency of sexual mistreatment was too low to calculate risk relationships. Recent history of emotional abuse was significantly associated with poorer self-rated health, whereas a recent history of physical abuse was unrelated to self-rated health

Prior Traumatic Events

History of PTEs was significantly related to poorer self-rated health.

Social/Dependency Model

Neither social support nor use of social services was significantly associated with poor health. Being bothered by emotional symptoms and needing help with ADLs were significantly associated with poor health.

Final Model

All significant predictors from the individual models were entered into a final multivariable model (Table 1). Income, prior PTE exposure, being bothered by emotional symptoms, and needing help with ADLs remained significantly associated with poor physical health in the final model, whereas emotional abuse was no longer significantly associated with self-rated health.

Discussion

Findings demonstrated that a history of PTE was associated with poor physical health among a geographically-specific (i.e., rural) population of older adults, after controlling for several relevant health risk variables. Results extend the literature on PTE exposure and physical health to a new population. Data from a national sample (Amstadter et al., in press) found that PTE was no longer significantly related to physical health when controlling for income, needing help with ADLs, and emotional symptoms, whereas the present data demonstrated that PTE remained a significant predictor after controlling for these variables. Thus, results from national samples do not necessarily replicate with this largely rural sample, and it is important to investigate relations within specific geographic regions to better inform local health policies.

A recent history of emotional mistreatment, but not physical mistreatment, was also associated with poor self-rated health. These findings replicate results from the recent national study (Amstadter et al., in press) demonstrating that emotional mistreatment in older adulthood was significantly associated with poor physical health, although the

relationship became nonsignificant after controlling for other correlates (i.e., income, needing help with ADLs, and being bothered by emotional symptoms). These data demonstrate a nuanced relation between elder mistreatment and physical health, such that the mistreatment *per se* may not determine physical health; rather, mistreatment is likely concomitant with other factors (e.g., low income, emotional symptoms, needing help with ADLs, etc.) that may be more directly related to physical mistreatment. Encouragingly, several of the variables related to health status, such as emotional symptoms, can be targeted during treatment to keep the victim from suffering from consequences related to negative emotional state.

The present results are consistent with theories suggesting that stress relating to social networks (i.e., family, friends, neighbors) may negatively impact self-rated health, especially among older adults due to their increased vulnerability to the effects of stress (Newsom et al., 2008). However, the mechanisms explaining the relation between elder mistreatment and poor physical health are not yet clear. While the present study was not designed to address these mechanisms, future research may benefit from including the appropriate methodology. One important area for future research may be in emotion regulation or coping (cf. Cherry, Silva, & Galea, 2009). That is, whether elder mistreatment, particularly emotional abuse, leads to poor health may depend on the individual's abilities and strategies for coping with negative emotions. Research along these lines may be particularly important for elucidating what treatments for older adults suffering from emotional abuse should target.

This study is not without limitations. The cross-sectional design precludes causal inferences. PTE exposure may be a cause, consequence, or correlate of physical health. Physical health assessment was limited to one item, though prior research suggests the validity of this method. Another limitation of this study was its failure to include, as a covariate or a risk factor, some measure of cognitive functioning. Instead, control was achieved experimentally over this variable by requiring interviewers to have no doubt whatsoever as to the ability of respondents to understand and respond to questions. In this way, our data reflect responses of a cognitively intact, community residing sub-population of older adults, and prevalences and risk factors should be considered in that context. By connection, generalization of these results to what may be the group most at risk of mistreatment, the cognitively impaired elderly, is not appropriate. Nonetheless, this study was the first random, probability sample of an older adult population in a specific rural area. Results from this study call for further research to elucidate factors associated with poor physical health among older adults.

Acknowledgments

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Table 1

Individual and Final Model Logistic Regression Results Predicting Self-Rated Health

Predictor	OR	95% CI	p-value
Model 1: Demographics			
Age			
60–70	1.00	-	.925
71+	1.02	0.67–1.55	
Ethnic Categories			
White	1.00	-	.355
All other groups	1.25	0.78–2.01	
Employment			
Employed	1.00	-	.056
Not Employed	1.82	0.98–3.35	
Marital Status			
Married/Cohabitating	1.00	-	.645
Single/Divorced/Separated	1.30	0.74–2.28	
Widowed	1.17	0.72–1.91	
Income			
<$35,000	1.00	-	.001
>$35,000	0.40	0.25–0.63	
Gender			
Male	1.00	-	.894
Female	0.97	0.65–1.46	
Model 2: Mistreatment			
Physical Abuse since Age 60			
No	1.00	-	.435
Yes	0.63	0.20–2.00	
Emotional Abuse since Age 60			
No	1.00	-	.040
Yes	1.74	1.02–2.94	
Model 3: Prior PTE			
Prior PTE			
No	1.00	-	<.001
Yes	2.02	1.43–2.85	
Model 3: Dependency Variables			
Level of Social Support			
High	1.00	-	.139
Low	1.46	0.88 –2.42	
Use of Social Services			
No	1.00	-	.948
Yes	1.02	0.62–1.66	
Needs ADL Help			

Predictor	OR	95% CI	p-value
No	1.00	-	<.001
Yes	2.66	1.64–4.34	
Bothered by Emotional Symptoms			
Not/Slightly	1.00	-	<.001
Moderately/Quite A Lot/Completely	3.61	2.11–6.19	
Model 4: Final Model			
Income			
<$35,000	1.00	-	.002
>$35,000	0.46	0.29–0.74	
Emotional Abuse since Age 60			
No	1.00	-	.991
Yes	1.00	0.55–1.84	
Prior PTE			
No	1.00	-	.008
Yes	1.89	1.18–3.03	
Needs ADL Help			
No	1.00	-	<.001
Yes	2.98	1.87–4.75	
Bothered by Emotional Symptoms			
Not/Slightly	1.00	-	<.001
Moderately/Quite A Lot/Completely	3.32	2.04–5.40	

Notes for logistic regression results: The level of the variable given represents the value, which is also the level of the variable hypothesized to be associated with increased risk.