

# What Is the Association Between Self-Neglect, Depressive Symptoms and Untreated Medical Conditions?

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**ABSTRACT.** *Objective.* There have been no studies describing the occurrence of untreated medical condition(s) in elders with depression who self-neglect. This study compares the prevalence of depression as indicated by an abnormal score ( $\geq 5$ ) on the Geriatric Depression Scale-Short Form (GDS-SF) between self-neglecters and matched non self-neglecting community-dwelling elders. It also describes the relationship between untreated medical condition(s) associated with self-neglect and abnormal scores on the GDS-SF.

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*Methods.* The two samples consisted of 50 self-neglect cases validated by Adult Protective Services and 50 matched non-self-neglecters recruited from a hospital geriatric unit. The cases and controls were matched on age, gender, ethnicity and socio-economic status when possible. All were assessed in their home. Each participant received a comprehensive geriatric assessment, which included the Geriatric Depression Scale-Short Form, the Mini-Mental State Exam, the Self-Rated Health and Mortality question, and the Physical Performance Test. A laboratory blood analysis was also conducted. Untreated medical condition(s) was determined during the assessment by a geriatric nurse practitioner.

*Results.* There was a statistically significant difference in the distribution of abnormal GDS-SF scores between the self-neglect ( $n = 25, 51\%$ ) versus the control group ( $n = 14, 28\%$ ;  $\chi^2 = 5.49, df = 1, p = .019$ ). Self-neglecters with scores indicative of depression were also significantly more likely ( $56\%$  vs.  $21\%$ ) to have untreated medical condition(s) compared to self-neglecters scoring normal on the GDS-SF ( $OR = 4.84, 95\% CI = 1.37-17.09$ ).

*Conclusion.* Clinicians should anticipate untreated medical condition(s) in elderly patients with depressive symptomatology who self-neglect. doi:10.1300/J084v18n04\_04 [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2006 by The Haworth Press, Inc. All rights reserved.]

**KEYWORDS.** Depression, self-neglect, untreated medical condition

## INTRODUCTION

Elder self-neglect is the most common form of elder mistreatment (Pavlik, Hyman, Festa, & Dyer, 2001; Lachs & Pillemer, 2004; Lachs et al., 1998a). In a nationally representative study of 20 counties in 15 states, the National Center on Elder Abuse (NCEA, 1998) reported that 139,000 (25%) of all the cases referred to Adult Protective Service Agencies were self-neglect cases. Formerly known as senile breakdown syndrome, elder self-neglect is primarily characterized by the inability or refusal to provide oneself with the basic care requirements for maintaining health (Macmillan & Shaw, 1966). Often accompanied by one or more conditions such as poor physical and mental health, deficits in nutrition and hygiene, untreated medical conditions and elevated social needs, self-neglect is an issue of considerable public health importance

(NCEA, 1998; Abrams, Lachs, McAvay, Keohane, & Bruce, 2002; Clark, 1975). Elderly individuals who self-neglect are at an increased risk for early mortality (Lachs et al., 1998a).

Although there are only a few studies, depression is considered an independent risk factor for both mortality and self-neglect among older adults (Abrams et al., 2002; Schulz et al., 2000). In addition, two studies have reported that depression is more prevalent among elders who self-neglect compared with those who do not (Abrams et al., 2002; Dyer, Pavlik, Murphy, & Hyman, 2000). In the study by Dyer et al. (2000) the prevalence of depression was compared between self-neglecters and individuals referred to a geriatric medicine team. In this study self-neglecters were found to have a significantly higher rate of depression even when adjustments were made for age, race, and gender. While also adjusting for age, race, gender, and income, Abrams et al. (2002), reported that individuals with clinically significant levels of depressive symptoms, at baseline, were significantly more likely to be investigated for self-neglect by a state agency. These preliminary reports provide support for the notion that depression among self-neglecters is higher compared with non-self-neglecters. The generalizability of these findings is limited however, and we know little about the associated clinical features of depression concomitant with self-neglect.

Due to this dearth of information, we compared the prevalence of depression between a community sample of self-neglecters and non-self-neglecters. Distinct from earlier studies (Abrams et al., 2002; Dyer et al., 2000) we employed a matched case-control design specifically controlling for differences in age, gender, ethnicity and socio-economic status. Our first goal was to determine whether depression, as indicated by a validated rating scale, is more common among self-neglecters compared with a matched community sample of non-self-neglecters. Our second goal was to determine the prevalence of untreated medical condition(s) in self-neglecters with depressive symptoms compared with those without depressive symptoms. Our hypothesis was that depression would be associated with untreated medical problems and thus, would be an important factor in the increased mortality and morbidity in elders who self-neglect.

## **METHODS**

The self-neglect sample included 50 self-neglect cases ages 65 and older referred by Adult Protective Services (APS). Inclusion criteria

for the self-neglect sample included (1) 65 years of age or older, (2) a validated case of self-neglect by APS, (3) English-speaking, and (4) residency in Harris County.

Cases were matched for age, gender, ethnicity, and socio-economic status with 50 non-self-neglecting participants recruited from the geriatric program at the Harris County Hospital District, in Houston, Texas. The parameter used to match for age was a  $\pm 5$  years difference between cases and controls. We used zip codes divided into deciles to approximate socio-economic status. The matched non-self-neglect sample had no history of validated self-neglect as reported by APS. All cases and controls were community-dwelling participants in an urban setting. Institutional Review Board approval was obtained for this study. Cases and controls provided written consent once the study procedures were fully explained.

Each participant received a comprehensive geriatric assessment (CGA), which included a history and physical exam and a review of all prescription and over the counter medications. Also included in the CGA were the following formal assessment tools: (1) Geriatric Depression Scale-Short Form (GDS-SF; Yesavage et al., 1983), (2) Mini-Mental State Exam (MMSE; Folstein, Folstein, and McHugh, 1975), (3) Self-Rated Health and Mortality scale (Idler and Angel, 1990), and (4) the Physical Performance Test (PPT; Reuben and Siu, 1990). A laboratory blood analysis was conducted, when possible, on all consenting participants.

The GDS-SF was administered to determine the occurrence of self-reported positive responses indicating depression. This scale is found to be an efficient screening tool for depression within the geriatric population even among individuals with dementia and was also chosen for its practicality in the home-based setting of this research (Brown and Schinka, 2005; Yesavage et al., 1983). Consistent with earlier literature, a score of  $\geq 5$  on the GDS-SF was chosen as an effective cutoff for indicating at least mild depression (Lester and Berryhill, 1994). Given that individuals with dementia can be impaired in self-assessment, scores on the MMSE, which is a widely utilized instrument to screen for dementia, are reported in this study (Folstein et al., 1975). The Self-Rated Health and Mortality question was used to measure each individual's perception of his or her own current health status (Idler and Angel, 1990). The PPT was administered to assess the relationship between depression and objective ability to perform basic activities of daily living (Reuben and Siu, 1990). As part of the laboratory blood analysis electrolyte ( $\text{Na}^+$ ,  $\text{K}^+$ , ionized  $\text{Ca}^+$ , pH level, Glucose) and complete blood count (CBC) levels were evaluated.

A nurse practitioner with 10 years of experience, 3 of which were spent providing home-based care for community-dwelling elders, performed the CGA and the blood draw for each participant. The past medical history and the current medical status of each participant were identified at this time. All untreated medical conditions were determined by the nurse practitioner based on the following criteria: (1) The participant reported a past medical diagnosis that requires ongoing treatment, but is not being treated (i.e., diabetes mellitus and not taking insulin) and (2) the discovery of an untreated medical condition, potentially undiagnosed, that required treatment to maintain health.

Descriptive statistics were calculated for the demographic characteristics of the 100 participants included in the statistical analyses. Independent sample t-tests were conducted using MMSE scores, Self-Rated Health and Mortality scores, PPT scores and number of medical conditions as dependent measures to assess potential differences between self-neglecters and non-self-neglecters. A Pearson Chi-square analysis was used to assess the differences in the distribution of abnormal GDS-SF scores between self-neglecters and non-self-neglecters. A Mantel-Haenszel odds ratio was calculated to estimate the difference in likelihood of untreated medical condition(s) between self-neglecters with abnormal GDS-SF scores compared with those with normal scores.

## **RESULTS**

The data were collected between April 1, 2005 and October 21, 2005. The mean age for the self-neglect sample was  $76.3 \pm 7.22$  with a range of 65-89 years and the majority of the sample were female (64%) and African American (58%). The mean age for the non-self-neglect sample was  $76.5 \pm 6.94$  with a range of 65-88 years and the majority of the sample were female (64%) and African American (70%). The mean education level for self-neglecters and non-self-neglecters was 10.65 and 10.41 years, respectively. Independent sample t-tests conducted between self-neglecters and non-self-neglecters using MMSE scores, PPT scores, Self-Rated Health and Mortality scores and number of medical conditions as dependent measures revealed no significant differences between the groups. A comparative summary of the demographic and measurement results between the groups can be found in Tables 1 and 2.

As many as 25 (51%) of the self-neglect sample, compared with 14 (28%) of the non-self-neglect sample, reported scores indicating at least mild depression. The analysis revealed this to be a significant difference

TABLE 1. Demographic Comparisons Between 50 Validated Cases of Elder Self-Neglect and 50 Community-Dwelling Elders

	Cases	Controls	Significance (p)
Age	76.3	76.5	.87
Race (%)			.15
African American	58	70	
European American	36	30	
Hispanic American	6	0	
Gender (%)			
Male	36	36	
Female	64	64	
Avg. Income (\$)	845.00	815.00	.76
Education	10.65	10.41	.24
Number of Medical Conditions	5.25	5.56	.40

TABLE 2. Comparative Test Scores Between 50 Validated Cases of Elder Self-Neglect and 50 Community-Dwelling Elders

	Cases	Controls	Significance (p)
GDS-SF	4.67 ± 3.13	3.50 ± 3.36	.08
MMSE	23.92 ± 4.35	24.92 ± 4.05	.24
Self-Rated Health and Mortality	3.5 ± 1.24	3.12 ± 1.08	.12
PPT	14.78 ± 5.16	16.38 ± 4.78	.11

\*All values include Mean and Standard Deviations.

between the groups with self-neglecters reporting a significantly higher rate of abnormal scores compared with non-self-neglecters ( $\chi^2 = 5.49$ ,  $df = 1$ ,  $p = .019$ ). A subsequent frequency analysis was conducted to determine the number of self-neglecters with abnormal scores on the GDS-SF currently taking antidepressant medications. The calculation showed that 3 (12%) were currently being treated with antidepressants.

A likelihood ratio was computed to determine the odds of untreated medical condition(s) being more likely to occur in self-neglecters with abnormal GDS-SF scores compared with self-neglecters with normal scores. Self-neglecters indicating at least mild depression were significantly more likely (56% vs. 21%) to have untreated medical condition(s)

compared with those without any GDS-SF indication of depression (OR = 4.84, 95% CI = 1.37-17.09). Further exploration delineated a variety of untreated medical diseases including hypertension, bradycardia, extreme weight loss, and critical electrolyte abnormalities. A comparison of the untreated medical conditions can be viewed in Table 2.

It should also be noted that the most severe cases of untreated medical conditions occurred in the self-neglect group exhibiting abnormal GDS-SF scores. Several of the self-neglecters were found by the nurse practitioner to need urgent medical care to avoid potentially morbid outcomes. Two of these individuals were transported to the hospital for critically high or low potassium levels that were discovered during the laboratory analysis (Table 3). The primary care physicians of two others were informed of the patient's critically irregular cardiac rhythms one of which was an extreme bradycardia.

## DISCUSSION

The results of this study should be considered in light of the following limitations. First, one common difficulty with assessing the cognitively impaired elderly is getting accurate and reliable responses. Nevertheless, the MMSE scores were very similar between self-neglecters and non-self-neglecters suggesting that the level of response accuracy was very similar. Second, because extreme self-neglecters often remain secluded from the community and refuse services they are less likely to be

TABLE 3. Untreated Medical Conditions Associated with Abnormal and Normal GDS-SF Scores Among 50 Validated Cases of Elder Self-Neglect

Abnormal GDS-SF	Normal GDS-SF
Hypertension (3)	Hypertension (2)
Cardiac Dysrhythmias(2)	
Hyperkalemia (1)	
Hypokalemia (1)	
Extreme Weight Loss (1)	Extreme Weight Loss (1)
Cancer (1)	
Coronary Artery Disease (1)	
Untreated Arthritic Pain (3)	
Untreated Chronic Lower Back Pain (1)	Untreated Arthritic Pain (1)
Poor Dentition (1)	Poor Dentition (1)

brought to the attention of APS; this sample may constitute less severe cases of self-neglect. This consideration coupled with the lack of ethnic diversity among the self-neglect sample in this study limits generalizability. Third, the use of a formal validation scale for identifying depression in the absence of a *Diagnostic and Statistical Manual of Mental Disorders-IV-TR* (DSM-IV-TR; American Psychiatric Association, 2000) clinical diagnosis of depression warrants a conservative interpretation of the study findings. Fourth, the detection of depression and the diagnoses of untreated medical conditions reflect a one-time assessment conducted by a single examiner only.

We found that over 50% of the self-neglecters in our study were experiencing at least mild depression as indicated by their GDS-SF scores. This rate was significantly higher than that found in the comparison group of matched non-self-neglecters. Further, this rate is considerably higher than the 15 to 20 percent rate of depression reported to occur in the general population of community-dwelling elders (Dyer et al., 2000; Leshner and Berryhill, 1994). Although preliminary, these findings provide a priority for better understanding the relationship between depression and self-neglect. Depression may result in apathy, lowered motivation and the neglect of daily needs, physical health and friendships. However, because ours was a cross-sectional study, we were unable to determine whether the occurrence of abnormal levels of depressive symptoms preceded or followed self-neglecting behaviors. Currently there is only one study that provides preliminary support for depression being a risk factor for self-neglect (Abrams et al., 2002).

At the time of assessment 56 percent of self-neglecters with abnormal GDS-SF scores had one or more untreated medical condition(s). This was significantly more than the 21 percent of those with normal GDS-SF scores having untreated conditions. There are several possible explanations for this finding. Depressed individuals may be attributing less value to their own health and may view services negatively or as less beneficial. Alternatively, depression often leads to social withdrawal and poor decision-making and consequently, to a greater risk for untreated medical condition(s). Although our study does not provide a causal explanation it does provide a possible rationale for the finding that self-neglecters are at increased risk for early mortality.

Importantly, some of the untreated medical conditions were of a serious nature. A few of the self-neglecters required immediate medical care owing to their medical status. Two were admitted to the hospital for critical potassium levels and two others were experiencing considerable cardiac problems warranting treatment. For example, one self-neglector



was recorded to have a heart rate of 28 beats per minute. Furthermore, some self-neglecters had multiple untreated medical conditions. One participant with depression reported an unintentional 60-pound weight loss over the last six months, coupled with untreated hypertension and extremely poor and painful dentition. Another participant experienced severe weight loss over a short period concurrent with a critical throat occlusion that was later revealed to be untreated carcinoma.

Depression was substantially under treated in the self-neglect group. The medication review revealed that only 12 percent of the self-neglecters with depression were taking antidepressant medications. One goal for future research is to learn more about the implications of treating depression for self-neglecting behaviors and for mortality. We are not aware of any randomized controls for this purpose.

### **CONCLUSION**

Our findings emphasize the importance of screening for depression in self-neglecters. Within this group untreated medical conditions were found to be significantly associated with abnormal scores on the GDS-SF. Even though our results warrant replication, the relationship among abnormal GDS-SF scores, self-neglect, and untreated medical conditions requires further clarification. Furthermore, one unaddressed challenge is to determine whether early recognition and treatment of depression reduces risks and improves outcomes in this population.

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