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Clinical Report

Functional impairment in geriatric hoarding participants

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ABSTRACT

Older adults with clinically significant hoarding ($n=28$) and non-psychiatric controls ($n=25$) were formally assessed using measures of mental status, psychiatric comorbidity, hoarding symptom severity, and the activities of daily living-hoarding (ADL-H) scale. Moderate to substantial impairment was found in multiple functional domains for a portion of hoarding participants. Significant differences were detected between ADL-H scores in non-psychiatric controls and geriatric hoarding participants. As expected, hoarding severity measures significantly were associated with ADL impairment. The ADL-H is a clinically useful tool for measuring and assessing important functional domains affected by clutter that may not be assessed by traditional hoarding severity or ADL measures. ADL improvement is an important treatment target for older adults with hoarding.

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1. Introduction

Late life hoarding is a serious psychiatric condition that has significant health and functional implications (e.g., Ayers, Saxena, Golshan, & Wetherell, 2010; Dong, Simon, Mosqueda, & Evans 2011; Kim, Steketee, & Frost, 2001). The following study will examine basic self-care task(s), known as activities of daily living (ADL), impairment levels due to hoarding symptoms in geriatric participants. Hoarding disorder is defined as difficulty discarding possessions (regardless of value) due to strong urges to keep items (Mataix-Cols et al., 2010). Urges to save and distress from discarding results in a large volume of clutter that does not permit use of living spaces in intended ways. United States community prevalence estimates are 5.3% (weighted) with even higher estimates in older adults (Samuels et al., 2008). One investigation found significant hoarding symptoms in 25% of elderly day-care attendees and 15% of nursing home residents (Marx & Cohen-Mansfield, 2003). Given the potential impact of hoarding symptoms (clutter volume, difficulty discarding, and acquiring) on functional abilities, it is imperative to examine these relationships in an age group where ADLs are critical in ability to live independently.

The literature is limited on the characterization and level of ADL impairment in older adults with hoarding. One investigation found that older adults with hoarding showed more ADL impairment compared to their same aged peers (Steketee, Schmalisch, Dierberger, DeNobel, & Frost, 2012). Many older adults with hoarding cannot use basic appliances, have significant plumbing problems, and essential rooms are rendered useless (Kim et al., 2001). Interviews with geriatric service workers indicated that within their hoarding caseload, 80% experience substantial impairment in movement, 70% were unable to use their sofa, over half could not prepare food, 45% cold not use their refrigerator, 42% could not use kitchen sink, 42% could not use their bathtubs, 20% could not use their bathroom sink, and 10% could not use their toilet (Kim et al., 2001). Further, hoarding may have consequences that are particularly dangerous for older adults, such as social isolation, lack of mental health care, and fall risk (Ayers et al., 2010; Kim et al., 2001).

We know much more about functional impairment and disability in mid-life samples. Hoarders have been found to have significantly higher levels of social, family, and work-related disability and lower global functioning than non-hoarding patients with obsessive–compulsive disorder (OCD), patients with other anxiety disorders, and community controls (Frost, Steketee, Williams, & Warren, 2000; Saxena et al., 2002, 2011). Additionally, hoarders were more often the victims of crime and had greater safety concerns than non-hoarding OCD patients (Saxena et al., 2011). Finally, hoarding participants were found to have a greater number of severe medical conditions, higher rates of health care utilization, and a greater number of work impairment days than their non-hoarding family members (Tolin, Frost, Steketee, Gray, & Fitch, 2008). These findings are concerning

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given older adults may have age related physical conditions that could magnify disability.

To date, no known investigations have specifically characterized ADL impairment associated with hoarding in a late life sample using any formal evaluation with participants. This pilot investigation seeks to illuminate areas of functional impairment utilizing the Activities of Daily Living-Hoarding (ADL-H; Grisham, Frost, Steketee, Kim, & Hood, 2006) in a geriatric hoarding sample. We believe hoarding participants will report significantly more ADL impairment than non-psychiatric controls. Further, we hypothesize that hoarding severity is associated with ADL impairment in geriatric participants.

2. Methods

2.1. Participants

Participants and non-psychiatric controls over the age of 55 were recruited with posted flyers throughout San Diego County. Hoarding flyers posed a series of questions related to hoarding symptoms (e.g., "*Do you have difficulty letting go of items? Have family and friends complained you save too many things?*"). The control flyers requested "*healthy older adults without mental health diagnoses*." These flyers listed symptoms that the participants could *not* have including depression, anxiety, or memory complaints. Participants were assessed by either a licensed clinical psychologist or advanced clinical psychology doctorate student. Research was approved by the University of California, San Diego Human Research Protections Program. Written informed consent was obtained from all the participants.

To be included in the hoarding group, participants were required to (1) meet diagnostic criteria hoarding as outlined by the DSM-V Workgroup (Mataix-Cols et al., 2010) based on clinical interview, (2) a score of 20 or greater on the UCLA Hoarding Severity Scale (UHSS; Saxena, Brody, Maidment, & Baxter 2007), and (3) a score of 40 or greater on the Savings Inventory-Revised (SI-R; Frost, Steketee, & Grisham, 2004). The diagnosis was confirmed by consensus with at least one licensed mental health clinician. Hoarding participants could be diagnosed with other psychiatric disorders with the exception of a psychotic disorder, bipolar I, bipolar II, substance abuse disorder, or dementia. Participants were excluded from either condition if they scored below a 23 on the Mini-Mental Status Examination (MMSE; Folstein, Folstein, & McHugh, 1975), had a neurodegenerative disease, history of a traumatic brain injury, met criteria for active substance use disorders, or reported active suicidal ideation. Control participants were also excluded if they met criteria for any psychiatric diagnoses.

2.2. Measures

2.2.1. Screening and diagnostic measures

Screening measures were used for cognitive impairment and hoarding symptoms. The MMSE is a widely used 30-item screening for severe cognitive impairment. The Hoarding Rating Scale (HRS; Tolin, Frost, & Steketee, 2010) is a five-item measure containing the basic diagnostic criteria for hoarding. Items are rated from none (0) to extreme (8). Mini-International Neuropsychiatric Interview (M.I.N.I.; Sheehan et al., 1998) was utilized as a brief diagnostic interview to assess psychiatric co-morbidity.

2.2.2. Activities of daily living measure

The ADL-H is a 15-item, self-report questionnaire. Items pertain to typical ADLs impacted by hoarding such as ability to move/exit quickly, use sinks, appliances, plumbing, and standard use of rooms. Items are rated from "can easily do" (1) to "unable to do" (5). This ADL scale differs from traditional functional measures as it inquires about activities that are directly affected by clutter, rather than physical and cognitive abilities. The scale has demonstrated good internal consistency, test–retest, and interrater reliability as well as discriminant and convergent validity (Frost, Hristova, Steketee, & Tolin, in preparation). Reliability of the ADL-H in the current sample was high (α=.928).

2.2.3. Hoarding severity measures

The SI-R is a 23-item self-report hoarding severity measure that contains clutter, acquisition, and ability to discard subscales. The SI-R has demonstrated good reliability and convergent validity. The UHSS is a 10-item, clinician-administered scale that measures the severity hoarding symptoms as well as indecisiveness, procrastination, and impairment. This measure has shown good reliability (α=.70) and concurrent validity with other hoarding severity measures (Saxena, Ayers, & Maidment, in preparation). Reliability of the scale in the current sample was high (α=.863). The Clutter Image Rating (CIR: Frost, Steketee, Tolin, & Renaud, 2008) indicates level of clutter volume in each room of their home with a focus on the living room, kitchen, and bedroom. This measure has been found to be both reliable and valid in hoarding groups.

2.3. Data analysis

Descriptive statistics were obtained for all variables and the data were examined for normality, missing values and outliers. No significant variation from the normal distribution was found after examining normality of continuous measures and homogeneity of variance. There were no missing values in the hoarding group and a total of five ADL-H individual items missing in the control group. Missing values were replaced with the corresponding item mean score. Group differences in demographic variables were examined using two independent samples *t*-test for age and education, and using chi-square test for gender. Independent samples *t*-tests were used to compare the hoarding and control group on measures of hoarding severity (SI-R, UHSS, and CIR) and the ADL-H. Finally, for hoarding participants, simple linear regression was conducted using activities of daily living as a dependent variable and each hoarding severity measure (SI-R, UHSS, and CIR) as an independent variable to study the association between hoarding severity measures and ADL impairment. All the tests were two-sided and significance was defined as $p < .05$. All analyses were performed using the SPSS version 17.0.

3. Results

Participants were 28 hoarding and 25 control participants (Table 1). No significant group differences were detected in age or education. There were significantly more females participants in the hoarding than in the normal control group (71% versus 64%, p=.007). However, gender differences were not detected on measures of symptom severity. Within the hoarding group, 35% met criteria for major depression, 25% met criteria for generalized anxiety disorder, 18% met criteria for dysthymia, 11% met criteria for obsessive compulsive disorder, and 3.5% met criteria

Table 1
Descriptive statistics of geriatric hoarding participants and non-psychiatric controls.

Descriptive information	Hoarding group (n=28)	Control group (n=25)
Age (yr)[a]	69.9(7.5)	66.8(7.1)
Gender[b]		
Female	20 (71%)	16 (64%)
Male	8 (29%)	9 (36%)
Education (yr)	15.6 (2.1)	15.3 (2.3)
Ethnicity		
Caucasian	25 (89%)	24 (96%)
Hispanic	3 (11%)	
African American		1 (4%)
Marital status		
Single	9 (32%)	4 (16%)
Married	10 (36%)	10 (36%)
Divorced	7 (25%)	8 (32%)
Widowed	2 (7%)	2 (8%)
SI-R total	58.11(10.96)	9.91(7.09)
SI-R acquisitions	18.39(3.66)	2.56(2.62)
SI-R discarding	18.63(4.09)	2.86(2.55)
SI-R clutter	21.07(4.67)	4.48(2.52)
UHSS	27.61(6.39)	3.52(3.24)
CIR living room	4.17(1.94)	1.16(.62)
CIR kitchen	3.82(1.91)	1.08(.57)
CIR bedroom	3.96(1.95)	1.08(.49)
ADL-H total	32.96(12.89)	13.80(5.52)

SI-R=Saving Inventory-Revised, UHSS=UCLA Hoarding Severity Scale, CIR=Clutter Image Rating, and ADL-H=Activities of Daily Living-Hoarding.

[a] Means (standard deviation) reported for age, education, and psychiatric measures.

[b] Number (percentage) of participants reported for gender, ethnicity, and marital status.