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Hoarding behavior among young children with obsessive–compulsive disorder

Hannah Frank, Elyse Stewart, Michael Walther, Kristen Benito, Jennifer Freeman, Christine Conelea, Abbe Garcia *

Alpert Medical School of Brown University/Bradley-Hasbro Children's Research Center, Coro West, Suite 204, 1 Hoppin St., Providence, RI 02903, USA

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ABSTRACT

Previous research has shown that among the various subtypes of obsessive–compulsive disorder (OCD), adults (e.g. Frost, Krause, & Steketee, 1996) and older children and adolescents (Bloch et al., 2009; Storch et al., 2007) with problematic hoarding have distinct features and a poor treatment prognosis. However, there is limited information on the phenomenology and prevalence of hoarding behaviors in young children. The present study characterizes children ages 10 and under who present with OCD and hoarding behaviors.

Sixty-eight children received a structured interview-determined diagnosis of OCD. Clinician administered, parent-report, and child-report measures on demographic, symptomatic, and diagnostic variables were completed. Clinician ratings of hoarding symptoms and parent and child endorsement of the hoarding item on the Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) checklist (Scahill, Riddle, McSwaggin-Hardin, & Ort, 1997) determined inclusion in the hoarding group ($n=33$).

Compared to children without hoarding symptoms ($n=35$), the presence of hoarding symptoms was associated with an earlier age of primary diagnosis onset and a higher proportion of ADHD and provisional anxiety diagnoses. These results are partially consistent with the adult literature and with findings in older children (Storch et al., 2007). Additional data on clinical presentation and phenomenology of hoarding are needed to form a developmentally appropriate definition of the behavior.

1. Introduction

Obsessive–compulsive disorder (OCD) is a neurobehavioral disorder characterized by anxiety-evoking thoughts or images (obsessions) and overt behaviors or mental rituals performed to reduce the distress caused by these thoughts (compulsions). OCD has been estimated to affect up to 2–3% of children (Valleni-Basile, Garrison, Jackson, & Waller, 1994), a figure that is likely an underestimate given that reports of "very early onset" OCD (before age 10) have only recently been documented (Garcia et al., 2009; Nakatani et al., 2011). Both studies characterizing children with very early onset OCD note similar symptom severity and a similar or greater degree of social, academic and family impairment as in children with later onset OCD.

Much as the broader efforts to characterize OCD started with adults and then gradually moved down the age continuum to young children, the efforts to look for and characterize important subtypes of OCD must also be extended to include young children. Categorical, etiological and factor analytic approaches have all been used as methods to better conceptualize OCD, which remains a heterogeneous diagnosis. Among the various subtypes of OCD, patients with problematic hoarding have been identified in adults (e.g. Eisen et al., 2013; Frost, Krause, & Steketee, 1996; Santana, Fontenelle, Yücel, & Fontenelle, 2013) and older children and adolescents (Bloch et al., 2009; Storch et al., 2007) as having distinct features and a poor treatment prognosis.

In an effort toward gaining a better understanding of hoarding, distinctions have recently been made between hoarding within the context of OCD and as part of a separate disorder, Hoarding Disorder (HD), which has been added to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* (American Psychiatric Association, 2013). Compulsive hoarding is characterized by difficulty discarding items, often resulting in significant distress and impairment due to excessive accumulation of clutter (Frost & Gross, 1993). Though topographically similar, Frost, Steketee and Tolin (2012) outline the distinctions between hoarding in OCD and in HD. One prominent difference is in the cognitive process related to hoarding. While thoughts about hoarding are generally distressing within the context of OCD, they are neither distressing nor repetitive in HD. Hoarding within HD

* Corresponding author. Tel.: +1 401 444 8945; fax: +1 401 444 8742.
E-mail address: agarcia2@lifespan.org (A. Garcia).

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only becomes distressing once the amount of clutter accumulated becomes debilitating. Therefore, the act of hoarding is considered ego-syntonic in HD and ego-dystonic in OCD. While the distinction between these disorders has been a source of debate within the literature, several studies have investigated hoarding symptoms as a broader, independent construct (e.g. among people with ADHD (Hacker et al., 2012), in community samples (Samuels et al., 2008). Regardless of diagnostic classification, there is agreement that symptoms of clinical hoarding result in significant impairment.

In addition to concerns about the consequences of hoarding, its relatively high prevalence is reason for increased attention on this topic. Based on a broad definition of clinical hoarding, prevalence rates have been estimated to be between 2% and 5% of the population (Iervolino et al., 2009; Samuels et al., 2008). Among individuals with OCD, between 25% and 30% are estimated to have symptoms of compulsive hoarding (Samuels et al., 2002; Storch et al., 2007). Though hoarding symptoms are thought to first arise in childhood or early adolescence, reports about its onset and course remain predominantly retrospective (Ayers, Saxena, Golshan, & Wetherell, 2010; Grisham, Frost, Steketee, Kim, & Hood, 2006; Samuels et al., 2007). Few studies have examined specific correlates of hoarding during later childhood and adolescence (Hacker et al., 2012; Storch et al., 2007; Testa, Pantelis, & Fontenelle, 2011; see Storch et al., 2011 for an overview) and none have investigated hoarding during early childhood.

Storch et al. (2007) conducted the only study to date that has used non-retrospective methods to characterize hoarding in children (ages 7–17) with OCD. Their findings suggest that, similar to adults, children with OCD and hoarding have a higher frequency of panic disorder, somatic complaints, and internalizing and externalizing behaviors than children without hoarding. In the context of developing a measure to assess hoarding severity in children (the Children's Saving Inventory; CSI), Storch et al. (2011) summarized additional characteristics of children with hoarding. Consistent with Storch et al. (2007)'s earlier study, there was a relationship between parent ratings of externalizing and internalizing behavior problems and child hoarding, but there was not a significant relationship between OCD symptom severity and hoarding. In addition, there was a weak, though significant, correlation between hoarding and anxiety symptoms. In terms of comorbidity, Testa et al. (2011) found that among children with learning disabilities, 16.4% of children exhibited clinically significant hoarding. Children with ADHD also exhibit higher levels of hoarding behaviors (Hacker et al., 2012). This finding is consistent with adult studies (Hartl, Duffany, Allen, Steketee, & Frost, 2005; Sheppard et al., 2010; Tolin & Villavicencio, 2011), which suggest that hoarding may be related to executive functioning and information processing deficits (Frost & Hartl, 1996; Steketee & Frost, 2003).

In general, both adult and child studies indicate that individuals with hoarding symptoms exhibit lower global functioning across a variety of domains (e.g. Mataix-Cols, Nakatani, Micali, & Heyman, 2008; Steketee & Frost, 2003). Adult hoarders have: lower Global Assessment of Functioning (GAF) scores, a higher number of suicide attempts, longer duration of illnesses, lower rates of marriage and lower levels of self-control (Santana et al., 2013; Timpano & Schmidt, 2012). Hoarding symptoms in adults and children predict persistence of OCD symptoms over time (Bloch et al., 2009; Eisen et al., 2013). Based on retrospective studies, there is also evidence for a significantly earlier age of OCD onset in those with hoarding symptoms than in those without (Fontenelle, Mendlowicz, Soares, & Versiani, 2004; Samuels et al., 2002). Individuals with hoarding symptoms have higher rates of social phobia, Generalized Anxiety Disorder (GAD), Obsessive Compulsive Personality Disorder (OCPD), Major Depressive Disorder (MDD), and compulsive buying than their non-hoarding counterparts (Chakraborty et al., 2012; Frost, Steketee, & Tolin, 2011; Frost, Tolin, Steketee, Fitch, & Selbo-Bruns, 2009; Samuels et al., 2007). Hoarders also exhibit elevated rates of chronic medical conditions, job loss, financial hardship, and obesity (Tolin, Frost, Steketee, Gray, & Fitch, 2008). Together, these findings represent significant levels of impairment, which result in substantial economic and public health burdens.

Due to the accumulative nature of hoarding, it is important to gain a better understanding of its development. However, given the dearth of research on hoarding in children, additional data on clinical presentation and phenomenology of hoarding are needed to form a developmentally appropriate understanding of the behavior. The present study is a downward age extension and replication of the Storch et al. (2007) study, attempting to characterize children ages 10 and under who present with OCD and hoarding behaviors. Though additional research will be needed to characterize children with hoarding behaviors outside of OCD, the feasibility of such research is limited by the fact that few children present to treatment for hoarding behaviors in the absence of other OCD symptoms.

In order to move toward a clearer understanding of the distinction between hoarding in OCD and HD, we must begin by better characterizing hoarding in this group. Perhaps if hoarding can be better recognized and treated during childhood, some of its deleterious long-term effects can be mitigated.

2. Methods

Participants were a subset of children who completed research evaluations between 2004 and 2012 at the Bradley-Hasbro Pediatric Anxiety Research Clinic (PARC), a specialty psychology/psychiatry clinic housed within a major medical center. Children in the sample were either recruited for one of several ongoing research studies at PARC or were clinical referrals from the community. Sixty-eight children (45.6% male) ages 10 and under ($M=7.41$, $SD=1.43$) were selected for inclusion in this study. All study protocols were approved by the Rhode Island Hospital institutional review board.

Inclusion criteria in this study included a structured interview-determined diagnosis of OCD and between ages 4 and 10. Exclusion criteria included current or past diagnosis of an autism spectrum disorder, mental retardation or psychotic disorder. The hoarding group ($n=33$) was determined by clinician ratings of hoarding behavior through clinical interview and child and parent endorsement of hoarding obsessions and/or compulsions on the Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) (Scahill, Riddle, McSwiggin-Hardin, & Ort, 1997)

Table 1
Demographic characteristics.

	Hoarding group ($n=33$)	Non-hoarding group ($n=35$)	Total ($N=68$)
Gender (Male)	48.5%	42.9%	45.6%
Income (Median=$80,000)	Above median: 53.1%	Above median: 68.6%	Above median: 61.2%
	At or below median: 46.9%	At or below median: 31.4%	At or below median: 38.8%
Race	Caucasian: 83.9%	Caucasian: 90.9%	Caucasian: 87.5%
	Asian: 6.5%	Asian: 0%	Asian: 3.1%
	Hispanic: 3.2%	Hispanic: 3.0%	Hispanic: 3.1%
	Multi-racial: 3.2%	Multi-racial: 3.0%	Multi-racial: 3.1%
	Other: 3.2%	Other: 0%	Other: 1.6%
	No response/unknown: 0%	No response/unknown: 3.0%	No response/unknown: 1.6%