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Ana Cristina Preto Lopes

Hoarding: OCD cluster or independent disorder?

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Hoarding: OCD cluster or independent disorder?

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Aos meus pais e aos meus melhores amigos,

que me ajudaram a chegar até aqui.

Aos doentes e professores, com quem

aprendi sobre Medicina e não só.

A José Marcelino Preto:

sei que ficarias feliz por me ver onde estou hoje.

Hoarding: OCD cluster or independent disorder?

Abstract

In the last edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-V*) there is a new listed disorder, named hoarding disorder (HD) (American Psychiatric Association, 2013). Until now, hoarding behaviors were viewed as a symptom dimension of obsessive-compulsive disorder (OCD).

Hoarding is defined as the extensive acquisition and inability to discard several objects that may appear of limited value to others, resulting in excessive clutter. Several recent investigations suggest that hoarding is clinically, neurobiologically and genetically distinct from OCD, which has implications in treatment and prognosis.

It is now consensual that HD is a distinct entity, with a well-defined course of the disorder, a specific presentation of symptoms and a need of a precise treatment, particularly in cognitive and behavioral aspects. The alterations on the new edition of the *DSM-V* emphasize the need of further research and clarification into a lot of aspects of this new disorder.

In this article, we discuss the evidence that enlightens this new classification, as well as some future implications.

Keywords: Hoarding Disorder; Obsessive-Compulsive Disorder; Diagnostic and Statistical Manual of Mental Disorders V.

Introduction

Hoarding disorder is characterized by an excessive acquisition and failure to discard objects of limited value, a cluttered living environment, and significant distress or impairment associated with these symptoms (Frost & Hartl, 1996). In some cases, the severity of these symptoms can reach levels that enable the patients from doing basic daily life activities, such as cooking, eating, moving around their own house or even sleeping (Frost & Hartl, 1996). These situations can achieve scenarios where hoarding becomes a threatening problem that puts people at risk of falls, accidents, sanitary problems and fire (Frost, Steketee, & Williams, 2000; Mogan, Kyrios, Schweitzer, Yap, & Moulding, 2012; G. Steketee, Frost, & Kim, 2001).

This condition is associated with an important economic and social burden and is present in approximately 2–5% of the population (Mueller, Mitchell, Crosby, Glaesmer, & de Zwaan, 2009; J. F. Samuels et al., 2008). In the United States of America, it is estimated that, in average, patients who suffer from hoarding symptomatology report 7.0 psychiatric work impairment days per month. (Tolin, Frost, Steketee, Gray, & Fitch, 2008). According to the same study, hoarding patients have a broad range of other chronic medical concerns and a five-fold higher rate use of services of mental institutions (Tolin et al., 2008).

Historically, hoarding has been considered a personality trait, and more recently, a symptom, or symptom dimension, of obsessive–compulsive disorder (OCD) (Fernández de la Cruz et al., 2013). In the previous edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV-TR*), hoarding was considered one of the eight criteria for the diagnosis of obsessive-compulsive personality disorder (OCPD) (American Psychiatric Association, 2000). Also, when in the presence of severe hoarding symptoms, the diagnosis of OCD was required (American Psychiatric Association, 2000). Nevertheless, an important number of individuals with severe hoarding do not demonstrate other OCD symptoms (Pertusa et al., 2008; J. F. Samuels et al., 2008).

Recent conceptualizations suggest that, in most cases, hoarding appears to be a sole diagnostic entity named hoarding disorder (HD), which was included in the 5th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-V*) (Mataix-Cols, Fernandez de la Cruz, Nakao, Pertusa, & Anxiety Obsessive-Compulsive, 2011).

Diagnostic criteria for HD include a persistent difficulty discarding or parting with possessions (Criterion A), which is due to a perceived need to save the items and distress associated with discarding them (Criterion B); the accumulation of possessions that clutter active living areas of the home to the extent that their intended use is significantly compromised (Criterion C); marked distress or impairment (Criterion D);

and symptoms not being attributable to another medical condition (Criterion E) and/or another DSM-5 disorder (Criterion F) (American Psychiatric Association, 2013). The presence of excessive acquisition and the degree of insight (good, poor or absent) are specifiers for the HD diagnosis (American Psychiatric Association, 2013).

The goal of this review article is to address the arguments and the discussion around this new diagnostic entity and to reflect about some of the consequences that this new classification of the referred symptoms implies.

Materials and Methods

The research of articles for this review was made in three medical databases: PubMed, Scopus and Web of Knowledge.

The initial search with the following query "*(obsessive-compulsive disorder) AND hoarding*" resulted in 1196 abstracts, as follows: 363 from PubMed, 423 from Scopus and 410 from Web of Knowledge. The limits applied to this search were: inclusion of articles written in English, Portuguese and Spanish, and exclusion of editorials and conference articles.

After excluding for the repeated references, 529 abstracts remained.

The application of the exclusion criteria to the obtained abstracts (studies about obsessive-compulsive personality disorder; studies about animal hoarding) and the research for free full-text articles resulted in 123 articles from which were obtained the references used in this study.

Results and Discussion

In the last years, a lot of attention has been given to the subject of hoarding and to all the discussion that concerns this. Many are the authors that have studied the hoarding symptoms from a behavioral and clinical point of view, concerning the beliefs and experiences of such patients, the items collected, the presence of stressful life events, comorbidities, quality of life , and the relationship of all previously mentioned with OCD presentation and core features. One of the main focus of such research is the answer to the question whether hoarding is a symptom of OCD or a distinct disorder (Rachman, Elliott, Shafran, & Radomsky, 2009).

Behavioral evidence

So far, hoarding has been approached as a symptom of OCD and it has been included in most structured interviews and questionnaires to access the symptomatology of OCD (Mataix-Cols et al., 2010).

In fact, hoarding can be an OCD symptom, with the evidence showing that it can be related to beliefs about fear of contaminating others, which originates difficulties discarding hoarded items (Pertusa, Frost, & Mataix-Cols, 2010). In spite of this, there is a growing body of evidence and consensus that supports the idea that hoarding is not related to OCD in the majority of the cases, with a percentage as high as 80% of hoarders who don't exhibit other OCD symptoms (Pertusa et al., 2008; J. F. Samuels et al., 2008).

A deep analysis of the psychopathology of hoarding behaviors can reveal that these differ considerably from OCD symptoms, despite the existence of some overlap between them. One important aspect of this consideration is the psychological mechanism of experiential avoidance (EA) in OCD patients and pure hoarders (Fernández de la Cruz et al., 2013). Experiential avoidance can be defined as *"the tendency to avoid contact with unwanted internal experiences"* (Fernández de la Cruz et al., 2013). Several recent approaches to the conceptualization of hoarding behavior take into account this psychological mechanism. Recent studies have compared the levels of EA between OCD patients who exhibit hoarding behaviors and pure hoarders. Individuals diagnosed with OCD who also reveal a hoarding component of their disorder have reported greater EA beliefs related to their possessions when compared to pure hoarders (Fernández de la Cruz et al., 2013; Gordon, Salkovskis, & Oldfield, 2013). However, non-hoarding OCD individuals demonstrate similar levels of EA when compared to OC hoarders (Fernández de la Cruz et al., 2013). This could lead us to think that EA is not specific of hoarding behaviors, but another study reported that EA levels were greater among hoarders (M. G. Wheaton, Abramowitz, Franklin, Berman, & Fabricant, 2011), which leaves us with discrepant arguments.

Hoarders with an OCD diagnosis also appear to report a greater fear of future material deprivation than pure hoarding patients (Gordon et al., 2013). This referenced study also found that OC hoarders have the tendency to report obsessional beliefs related to their belongings, such as a fear of something bad happening if their objects are discarded (Gordon et al., 2013). On the other hand, hoarders who don't meet criteria for an OCD diagnosis report a greater degree of emotional or intrinsic value attributed to their possessions (Pertusa et al., 2008). Another point that is worth to mention is how hoarding individuals appear to show an ego-syntonic disposition with their symptoms. This statement takes us to reflect about possible differences between the degree of insight of pure hoarders and OCD patients with a hoarding behavior.

OCD patients with a hoarding behavior appear to show a lower level of insight into their condition (Jakubovski et al., 2011). Nevertheless, pure hoarders are also characterized by an affected insight of their symptoms, which can be assessed by the

fact that in most cases there is the need for a family or a public health authority intervention. (Tolin, Fitch, Frost, & Steketee, 2010; Tolin et al., 2008).

The level of insight of OCD individuals and pure hoarders is an aspect that deserves some attention. It is worth to mention that there is a striking difference concerning the thoughts involved in OCD and in hoarding. While OCD patients experience their obsessive thoughts as intrusive and stressful, hoarders do not feel that their thought concerning material acquisition are intrusive or unwanted (Frost, Steketee, & Tolin, 2012). This has implications on the level of insight of such patients. In order to make a diagnosis of OCD, the patient should have some level of insight that acknowledges the ego-dystonic nature of such repetitive obsessions. Even though this doesn't always happen, leading to a worse symptomatology of OCD (e.g., OCD individuals with hoarding behaviors) (Jakubovski et al., 2011), it is not a mandatory characteristic of OCD. In pure hoarders, their thoughts about possessions and their meaning are experienced as part of their normal stream of thought (Mataix-Cols et al., 2010), and there isn't the need to perform any ritual to control them (Frost, Steketee, et al., 2012). The distress felt by people who hoard comes mainly from the result of their behavior: the clutter that fills up their homes and the conflicts with their families and authorities (Frost, Ruby, & Shuer, 2012). This often leads hoarders to deny their problem and to resist any interventions made by others in order to treat their symptomology (Greenberg, 1987; G. Steketee, Frost, & Kyrios, 2003).

As stated before, OCD hoarders and pure hoarders are different in what concerns the core of the motivation of their symptoms. OC hoarders act on such behaviors due to obsessional beliefs about their acquisitions, believing that something bad can happen if they discard their objects, harming others, for example (Seaman, Oldfield, Gordon, Forrester, & Salkovskis, 2010). Also, the way their possessions are organized is a reflection of their OC nature. OC hoarders tend to organize their objects according to well defined categories, sometimes divided by the areas of their home, reflecting the obsessive component of their disorder (e.g., counting and checking) (Fontenelle et al., 2004; Pertusa et al., 2008; Torres et al., 2012; M. Wheaton, Timpano, Lasalle-Ricci, & Murphy, 2008).

On the other hand, pure hoarders are disorganized and have different feelings towards their possessions. They often perceive their acquisitions as valuable items, even though when there is no attributable value to them. This can come from beliefs about the potential usefulness of objects in the future which creates an anticipated anxiety of discarding them (Gordon et al., 2013). The emotional avoidance of such anxiety leads them to avoid discarding, which leads to a maladaptive coping mechanism. In a study by Pertusa et al., in a hoarding sample without OCD, all

participants reported attributing emotional or intrinsic value to the objects collected (Pertusa et al., 2008). In fact, pure hoarders often feel positive emotions when acquiring and reviewing their items. When trying to discard them, they often report a feeling of grief (Frost, Steketee, et al., 2012). Once more, this leads hoarders to emotional avoidance, avoiding discarding. Such emotions are rare in hoarders with OCD (Mataix-Cols et al., 2010).

According to some studies, another characteristic of pure hoarders that doesn't seem to appear in OC hoarders are decision-making problems (even though this is also a classical aspect of some OCD patients). It has been described that adults with significant hoarding problems reported more decision-making problems than their children or their spouses, or than OCD patients without hoarding behaviors (Frost, Tolin, Steketee, & Oh, 2011; G. Steketee et al., 2003). More importantly, this indecisiveness problem showed to be correlated with the three core features of hoarding (excessive acquisition, difficulty discarding and clutter) and it was independent of OC symptoms (Randy O. Frost et al., 2011). However, OC symptoms seemed to be related to the acquisition of free materials (Randy O. Frost et al., 2011). Nevertheless, it is important to mention that the evidence concerning this particular aspect is not consensual. Therefore, it is not possible to draw any concrete conclusions from the studies published so far.

Several correlational studies in the past years have demonstrated that hoarding and typical OCD symptoms display a small to moderate range of correlation between them, similar to correlations with symptoms of anxiety and depression (Abramowitz, Wheaton, & Storch, 2008; Grisham, Brown, Liverant, & Campbell-Sills, 2005; Olatunji, Williams, Haslam, Abramowitz, & Tolin, 2008; Wu & Watson, 2005).

Another aspect related to hoarding behaviors that is worth mentioning is the clinical entity denominated "Diogenes syndrome". This is defined as a combination of hoarding behaviors, social withdrawal and extreme self-neglect, most frequently in elderly patients (Lahera, Saiz-Gonzlez, Martin-Ballesteros, Perez-Rodriguez, & Baca-Garcia, 2006; Rosenthal, Stelian, Wagner, & Berkman, 1999). An important difference between these patients and hoarders is the fact that these elders usually collect garbage and become extremely isolated (Lee & LoGiudice, 2012). An important question related to this is whether Diogenes syndrome is an extreme presentation of hoarding behaviors or it is a distinct disorder that can present itself with such a low insight, becoming delusional (Rosenthal et al., 1999). Current research is not clear on this matter.

Stressful/traumatic life events

Hoarding behaviors seem to emerge as a result of genetic and environmental factors (Iervolino et al., 2009).

Hoarding individuals, with and without comorbid OCD, appear to report a higher frequency and number of stressful and traumatic life events, such as having something taken by force, being physically rough-handled or experiencing material deprivation (Hartl, Duffany, Allen, Steketee, & Frost, 2005). A more recent study had similar results with and extended sample, showing that hoarders reported more traumatic life events than non-hoarding OCD individuals, and that these traumatic life events were related to the severity of hoarding symptoms (Cromer, Schmidt, & Murphy, 2007). A more recent study analyzed the impact of traumatic/stressful life events in pure hoarders, in OC hoarders and in non-hoarding OCD patients, concluding that there is a positive relationship between the number of such life events and the presence and severity of hoarding behaviors, which wasn't the case for non-hoarding OCD individuals (Landau et al., 2011). It also concluded that an important percentage of hoarders link the beginning of their symptoms with a stressful/traumatic life event (Landau et al., 2011). The presence of stressful life events also appeared to be associated with the exacerbation of hoarding symptoms, in a sample of individuals (with no distinction between OC and pure hoarders) who self-reported hoarding behaviors (Tolin, Meunier, Frost, & Steketee, 2010).

Comorbidities

A few studies have underlined the most frequent comorbidities between pure hoarders and patients with non-hoarding OCD.

In a sample with such individuals, it was concluded that only 18% of hoarders meet criteria for OCD (Frost, Steketee, & Tolin, 2011). Also, there was a rate of 50% for major depressive disorder (MDD), 24.4% for generalized anxiety disorder (GAD), 23,5% for social phobia, as well as significant rates for attention deficit hyperactivity disorder (ADHD) and impulse control disorders (such as kleptomania and compulsive buying) among the hoarding sample. The rates of such diagnosis were lower in OCD patients (R. O. Frost et al., 2011). Despite having experienced more stressful/traumatic life events, there wasn't a higher rate of post-traumatic stress disorder (PTSD) among hoarders (R. O. Frost et al., 2011). Other findings also suggest a rate of 80% of excessive acquisition (compulsive buying, kleptomania or acquiring free objects) among self-reported hoarders (Frost, Tolin, Steketee, Fitch, & Selbo-Bruns, 2009).

In a more recent study, a large sample of self-reported hoarders was analyzed, concluding that depression symptoms were the most frequent among these individuals

(Hall, Tolin, Frost, & Steketee, 2013). Surprisingly, a high number of the participants didn't report symptoms of OCD or ADHD, even though a lot of them were associated with indecisiveness and inattention problems (Hall et al., 2013).

The importance of a comorbid diagnosis of MDD in patients with hoarding behaviors is related to the fact that such individuals may experience a feeling of grief and loss when discarding their items, which has been reported by a great number of hoarders (Frost, Steketee, & Grisham, 2004; Frost & Hartl, 1996). If a behavior of fatigue-related avoidance and apathy is present, this may interfere with treatment, becoming a difficult obstacle to overcome (G. Steketee, Frost, Tolin, Rasmussen, & Brown, 2010).

In a large trial for hoarding disorder (HD), 31% of the participants with HD were not associated with a comorbid diagnosis (Mataix-Cols, Billotti, Fernández De La Cruz, & Nordsletten, 2013).

An epidemiologic study reported that none of the hoarding participants had a compatible diagnosis for OCD (J. F. Samuels et al., 2008). In another sample, significant hoarding symptoms were found in 29% of GAD patients, compared to 17% of OCD patients (Tolin, Meunier, Frost, & Steketee, 2011).

In spite of the existence of a correlation between hoarding symptoms and other OCD symptoms, such correlation is much stronger between classic OCD symptoms themselves (Abramowitz, Schwartz, Franklin, & Furr, 2003).

Concerning the frequency of personality disorders, OC hoarders have been found to manifest more cluster B personality disorder traits than non-hoarding OCD patients (Frost, Steketee, Williams, & Warren, 2000; Mataix-Cols, Baer, Rauch, & Jenike, 2000; J. F. Samuels et al., 2007). Under this light, hoarding behaviors seem to be linked to personality disorders, other than OCPD (avoidant, dependent, paranoid and schizotypal) (J. F. Samuels et al., 2008).

Neurologic and cognitive evidence

Hoarding symptoms can be found in a variety of mental and organic disorders, such as dementia, schizophrenia, autism and brain damage (Pertusa, Frost, Fullana, et al., 2010; Gail Steketee & Frost, 2003).

Several studies have tried to find a neuroanatomical relationship with hoarding symptoms, in human and animal models. This behavior is well studied in animals, mostly in rodents, birds and primates (Mataix-Cols, Pertusa, & Snowdon, 2011). Such studies reveal that subcortical limbic structures (nucleus accumbens, ventral tegmental area, amygdala, hippocampus, thalamus, hypothalamus) and the ventro-medial prefrontal cortex play an important role in hoarding behaviors (Mataix-Cols, Pertusa, et

al., 2011). An example, is the increasing of hoarding behavior in rats when the lateral hypothalamus is electrically stimulated (Herberg & Blundell, 1967). Animal studies also suggest the involvement of the dopaminergic system in hoarding behaviors: in rats, the lesion of meso-cortical structures, leading to low levels of dopamine, showed to be implied in hoarding behaviors that were later corrected by the administration of L-dopa (Kalsbeek, De Bruin, Feenstra, Matthijssen, & Uylings, 1988; Kelley & Stinus, 1985). This questions the role of dopaminergic drugs in the treatment of hoarding symptomatology.

In patients that revealed the onset of hoarding symptoms after brain damage occurred, the involved neuroanatomical structures in such lesions appeared to be the anterior ventromedial prefrontal and cingulate cortices (Anderson, Damasio, & Damasio, 2005; Hahm, Kang, Cheong, & Na, 2001; Volle, Beato, Levy, & Dubois, 2002).

In a neuroimaging study with patients suffering from fronto-temporal dementia, pathological hoarding involved the ventromedial prefrontal cortex (Nakaaki et al., 2007).

On the other hand, the brain structures associated with major symptoms dimensions of OCD, such as washing and checking, seem to be the bilateral ventromedial prefrontal regions and right caudate nucleus and the putamen/globus pallidus, thalamus, and dorsal cortical areas, respectively (Mataix-Cols et al., 2004). In the same imaging study, the hoarding symptomatology was associated with the left precentral gyrus and the right orbitofrontal cortex (Mataix-Cols et al., 2004). This leads us to think that different areas of the brain are related to different symptom dimensions of OCD, specially hoarding behaviors, involving different neural pathways.

Besides MRI and PET studies, cerebral glucose metabolism studies also show a difference between the hoarding dimension of OCD and the other symptom dimensions (aggressive/checking compulsions, symmetry obsessions and contamination/washing obsessions and compulsions). In a study comparing hoarders, non-hoarding OC patients and a group control with no psychiatric diagnosis, patients with compulsive hoarding showed a lower level of cerebral glucose metabolism in the posterior cingulate cortex and the occipital cortex (cuneus) (Saxena et al., 2004). Hoarding individuals also revealed a lower glucose metabolism in the areas of the dorsal anterior cingulate gyrus and the thalamus, when compared to non-hoarding OC patients (Saxena et al., 2004). These findings support the idea of hoarding disorder as a distinct cluster of OCD, specifically on a neurobiological level.

In addition to the mentioned above, several PET studies have reported that classic OCD symptoms involve the areas of the orbito-frontal cortex, the ventromedial

caudate, the globus pallidus and the medial dorsal nucleus of the thalamus (Baxter et al., 1996; Modell, Mountz, Curtis, & Greden, 1989; Rapoport, 1990).

Regarding cognitive processes, hoarding patients tend to report more attention problems than non-hoarding OCD individuals (Tolin, 2011b). These have been evaluated trough standardized tests of attentional capacity, where hoarding appears to be related with a low non-verbal attention, higher variability in reaction times, a low ability to detect target stimulus and a high impulsivity (Grisham, Brown, Savage, Steketee, & Barlow, 2007; Tolin, Villavicencio, Umbach, & Kurtz, 2011).

Another aspect that distinguishes hoarders from non-hoarding OCD patients is memory. Hoarding individuals tend to complain about poor memory, compensating this by saving items in order to remember important facts, moments or people (Hartl et al., 2004). They also tend to keep their possessions in sight, in order not to forget where they placed their objects or that they have them (Tolin, 2011b). A study that used standardized tests to evaluate hoarder's memory deficits reported the use of less visual recall strategies and impaired delayed recall, when compared to the control group (Hartl et al., 2004).

Studies have also reported that OC hoarders have more indecisiveness problems and, which leads to problems in categorization and decision making, resulting in difficulties discarding (J. Samuels et al., 2002). Using the Iowa Gambling Task (IGT), OC hoarders have a poorer performance than non-hoarding OCD individuals (Lawrence et al., 2006). On the contrary, these findings were not replicated by other studies using samples of primary hoarders (Grisham et al., 2007; Grisham, Norberg, Williams, Certoma, & Kadib, 2010).

Research is a not very enlightening on what concerns executive functions of planning and problem solving. Some studies suggest that hoarders perform more poorly on these tasks, when compared to controls (Grisham et al., 2010), whereas others suggest the opposite (Tolin, Villavicencio, et al., 2011). Nevertheless, the ability to categorize objects seems to be impaired in hoarding subjects (Wincze, Steketee, & Frost, 2007). Hoarders also appear to exhibit more anxiety while performing categorization tasks, than do the controls (Grisham et al., 2010).

Course of the disorders/Prognosis

OCD and hoarding have different courses, as disorders. Usually, classic OCD symptoms start at the beginning of adulthood and they wax and wane over time, becoming less severe over time (Frost, Steketee, et al., 2012). On the other hand, hoarding symptoms tend to begin earlier in life (even in childhood) and become worse at each decade of life (Ayers, Saxena, Golshan, & Wetherell, 2010; Grisham, Frost,

Steketee, Kim, & Hood, 2006; Tolin, Meunier, et al., 2010). Another characteristic that is worth mentioning is the level of insight. Hoarders have a much lower level of insight into their problems than OCD patients (Tolin, Fitch, et al., 2010).

Concerning the prognosis of OCD and hoarding behaviors, hoarders are faced with a worse prognosis. Pharmacological therapies that are available for hoarding treatment are based on selective serotonin reuptake inhibitors (SSRI's), which are also used for treatment of classic OCD symptoms (Saxena, 2008). So far, hoarding symptoms don't seem to respond to such drugs as well as other OCD symptoms (Tolin, 2011b). Cognitive behavioral therapy is also a challenge in hoarding patients, due to the frequent lack of insight that they present. On the other hand, OCD patients only seem to loose insight into their condition in severe presentations of the disorder (Jakubovski et al., 2011).

Conclusions

In the last decades, hoarding behaviors have been subject to several studies.

So far, hoarding has been considered a symptom of OCD, but recent evidence suggests that it may be better classified as an individual entity, hoarding disorder, instead of an OCD cluster.

Until this moment, there is not a satisfactory treatment for hoarding behaviors (Tolin, 2011a, 2011b). A better understanding into the hoarding phenomenon may provide advances on pharmacological and cognitive-behavioral treatments. To achieve this, all aspects of this new categorized disorder must be considered, including functional impairment and low quality of life reported by hoarders (Saxena et al., 2011), the fact that these individuals tend to be more often victims of both violent and non-violent crime (feeling less safe at their homes and neighborhoods) (Saxena et al., 2011), maladaptive beliefs about their possessions (Gordon et al., 2013), as well as other cognitive functions and deficits (Grisham et al., 2010; Hartl et al., 2004). These aspects have been found to differ in hoarding and in classic OCD symptomatology (Jang et al., 2010), which should be considered for the development of more effective treatments of hoarding behaviors (Tolin, 2011a, 2011b).

Further research on hoarding as a clinical distinct disorder may help the improvement of the pharmacological treatments and the cognitive behavioral therapies that are currently used.

The current criteria for the new classification of hoarding disorder included in the new DSM-V take into to account the description of symptoms (criteria A, B, and C), the level of distress (criteria D) and the exclusion of organic disorders or any other psychiatric disorders (criteria E and F) (American Psychiatric Association, 2013). The

degree of insight and the level of acquisition were also included as specifiers (American Psychiatric Association, 2013). These new criteria highlight that a diagnosis of OCD must be ruled out in order to considerer the diagnosis of hoarding disorder.

Early research about hoarding disorder has been based on samples of individuals diagnosed with OCD. Considering that fewer than 20% of the total of OCD patients present with hoarding symptomatology (Frost, Steketee, et al., 2012), this represents a clear bias of the findings and conclusions drawn from such works. The use of the new criteria will be helpful in designing more appropriate studies to analyze several unanswered questions and to develop scales that can properly access hoarding disorder, considered that until now hoarding behaviors were assessed within OCD measure scales (Frost et al., 2004), which posed a serious limitation on previous studies.

With the advance on hoarding disorder classification made in the last edition of the *DSM*, the future research and treatments for this condition shall be improved and better directed to the target patients.

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JOURNAL OF OBSESSIVE-COMPULSIVE AND RELATED DISORDERS

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