Prevalence of hoarding behaviours and excessive acquisition in users of online classified advertisements

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ABSTRACT

An estimated 2–6% of the general population is thought to suffer from clinically significant hoarding symptoms, with 80–90% engaging in excessive acquisition. Minimal research has examined the excessive acquisition component of hoarding disorder (HD). Many individuals with HD have limited insight into their condition and are reluctant to seek help, making prevalence estimates difficult to obtain. Online classified advertisement networks provide a venue to list items for sale, often for free. We examined the prevalence of hoarding behaviours among users of online classified advertisements. A link to an online survey was posted between June 26, 2015—March 10, 2017. Participants provided demographic information and completed the Hoarding Rating Scale (HRS); individuals with clinically significant hoarding (High HRS) also completed the Saving Inventory-Revised (SI-R) and Clutter Image Rating (CIR). Feedback regarding hoarding behaviours was provided. The survey was completed by 729 adults and 12.3% (*n* = 90) self-identified as experiencing clinically significant hoarding as per the HRS (High HRS). Of those in the High HRS group, most (66.7%) were categorized to the 'high acquisition' group based on the SI-R excessive acquisition subscale. Overall this sample revealed high rates of significant hoarding behaviours, almost double that of community samples. Excessive acquisition was prominent and associated with greater hoarding severity, highlighting the need to further study this specifier.

1. Introduction

While previously a symptom subtype of obsessive-compulsive disorder, hoarding disorder (HD) has been newly classified as a standalone psychiatric diagnosis in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association, 2013). Epidemiological studies have estimated the prevalence of HD to be at 2–6% in adult community samples (Pertusa et al., 2010), with reports indicating childhood onset to be most common (Grisham et al., 2006). The cardinal feature of HD is persistent difficulty and distress associated with discarding or parting with possessions. Such difficulties often lead to accumulation of possessions, which discourage the utility of living spaces and cause significant distress and/or impairment of day-to-day functioning (Frost et al., 2015; Kress et al., 2016). In severe cases of hoarding, injury or death can result from increased risk of fires, falling, and poor sanitation (Frost et al., 2000; Kress et al., 2016).

Within the diagnostic criteria for HD, patients can be further classified according to additional features, or "specifiers". One specifier describes the extent to which the person recognizes hoarding-related beliefs and behaviours as problematic (APA, 2013; Kress et al., 2016). Many individuals with HD lack such insight into their difficulties and are consequently reluctant to seek help for their problems (Mataix-Cols et al., 2010; Tolin et al., 2010a; Snowdon et al., 2012; Frost et al., 2013). Excessive acquisition is another specifier which can manifest through the compulsive purchasing of items, obtaining free items, or less frequently, stealing items that are not needed or for which there is no available space (APA, 2013).

Of those with HD, approximately 80–90% engage in excessive acquisition (Frost et al., 2009, 2011, 2013; Mataix-Cols et al., 2013); these persons typically experience distress if they are unable to acquire or are prevented from acquiring items. Amongst individuals with problematic hoarding, excessive acquisition has been associated with increased severity and earlier onset of hoarding behaviours, more impaired days, and greater depression and anxiety symptoms (Frost et al., 2009).

However, little research has examined the excessive acquisition component of this disorder. Similarly, there is limited available research describing where HD patients acquire items. One study reported that many collected items given to them for free while others accumulate items through "passive acquisition", retaining objects instead of actively acquiring them (Frost et al., 2009).

With the recent shift towards Internet-based mediums, new venues for selling goods have emerged. Online classified advertisement networks provide a way to list items for sale, often for free, with a focus on selling locally in the community. In North America, consumers can sell or buy new or used goods through a variety of online classified sites, such as eBay, Kijiji and Craigslist. Almost half (49%) of internet users say they have used online classified sites, with almost a tenth of internet users (9%) visiting online classified websites in a given day (Jones, 2009). Given that many individuals with HD have limited insight into their symptoms and acquire items excessively, it is of interest to examine the prevalence of hoarding behaviours in users of classified advertisement websites. It is hypothesized that the prevalence of clinically significant hoarding behaviour will be higher than estimates of HD in the community. As such, this study hopes to add to the limited scientific literature on HD by investigating the prevalence of hoarding behaviours and acquisition among users of online classified advertisements.

2. Methods

2.1. Procedures and participants

A link to an online survey, hosted on a secure server, was posted to the following online Canadian classified ad websites: Kijiji, Craigslist, Locanto, Winnipeg and Postad.ca between June 26, 2015—March 10, 2017. A link was also posted on Reddit (r/Hamilton, subreddit for Hamilton, Ontario) and the research clinic website (www.macanxiety.com). The online posting invited individuals to take part in the "Clutter Quiz"; no subjects were approached directly to solicit interest in the study. This study was approved by the Hamilton Integrated Research Ethics Board (HiREB), McMaster University/Hamilton Health Sciences, Canada.

Following acknowledgement of a disclosure statement, participants aged 16 and above were asked to complete a short demographic questionnaire providing information related to age, gender, marital status, employment and highest attained level of education. No personal identifiers were collected. Participants answered general questions regarding their use of online classified websites and acquisition patterns (e.g. number of items purchased weekly, money spent on items, acquisition settings, etc.). All participants also completed the 5-item Hoarding Rating Scale (HRS). If the HRS score indicated clinically significant hoarding (High HRS) (score of ≥ 3 on items 1,4 and 5; ≥ 4 on item 2, and ≥ 2 on item 3) (Tolin et al., 2010b), participants were also asked to complete the Saving Inventory-Revised (SI-R) and the Clutter Image Rating (CIR). Once all measures were completed, participants were provided feedback about their hoarding behaviours based on their HRS score. Individuals who scored below the HRS item-specific cut-offs were informed that they did not have significant hoarding behaviours (Low HRS group), while those scoring above were identified as potentially having problematic hoarding behaviours and encouraged to contact a health professional for further assessment. No compensation or incentives beyond this feedback were provided.

2.2. Measures

The HRS is a brief, 5-question self-report tool that assesses the core symptoms of HD: distress and impairment (Tolin et al., 2010b). It was used to assess prevalence of significant hoarding behaviour in the current study sample. A mean total score of 24.22 ± 5.67 has been reported for individuals with hoarding problems (Tolin et al., 2010b);

however, analysis of sensitivity and specificity suggest a clinical cut-off total HRS score of 14 (Tolin et al., 2010b). This measure was used to dictate whether respondents met criteria for clinically significant hoarding behaviours (hereon in referred to as the "High HRS" groups) and non-clinically significant hoarding behaviours ("Low HRS" group).

The SI-R and CIR were also used to assess for significant hoarding behaviours in the High HRS group. The SI-R is a 23-item, self-report questionnaire with three factor analytically defined sub-scales each with cut-offs defining problematic behaviours: difficulty discarding (score > 13), excessive clutter (score > 15) and excessive acquisition (score > 13) (Frost et al., 2004). The SI-R excessive acquisition subscale was used to categorize High HRS respondents into the "high acquisition" group (score > 13) and all others as the "low acquisition group". An average score of 15.2 ± 5.4 on this subscale has been reported in samples with HD (Frost et al., 2004). A total SI-R score > 40 is thought to be suggestive of problematic hoarding. It has demonstrated good internal consistency (α = 0.92) and test-retest reliability.

The CIR is a pictorial measure of clutter severity rated by the participant. This scale contains three cards, each containing nine equidistant, standardized photographs displaying severity of clutter, with one card for each of three main rooms of most people's homes: living room, kitchen and bedroom. Participants selected the photograph that most closely resembled the level of clutter in each room of their home. An image rating of 4 or higher is thought to impinge on an individual's daily life, as such, in this study was used as a cut-off for problematic hoarding. A mean score was calculated for all three images and a mean composite score for an overall rating. Previous research has indicated strong internal consistency (α = 0.84) and test–retest reliability (Frost et al., 2008).

2.3. Data analysis

Data analysis was performed using IBM SPSS Software version 25. Demographic differences in hoarding (High vs Low HRS) and acquisition behaviours (High vs Low Acquisition) were examined using a chi-squared test. Given the categorical nature of the data a chi-squared test was also used to examine time and money spent on items, free items acquired, etc. Mean scores (and standard deviations) were calculated for each scale and sub-scale described above. Given the large sample size, a normal distribution was assumed for analyses involving High HRS vs. Low HRS and independent sample t-tests to examine differences in means between these groups (Norman and Streiner, 2008). However, given the smaller sample size of individuals with High and Low Acquisition sub-samples, a Shapiro Wilk test was utilized to examine whether data was normally distributed. A Mann-Whitney U test was used to analyze differences where data was non-normal. Correlations were drawn with either a Pearson's or Spearman's coefficient, where applicable. A significance level of p < 0.05 was selected. Given that this was an exploratory analysis, multiple comparisons were not corrected for. Missing data was not considered problematic if 5% or less of values were missing in a random pattern, given the large size of the data set (Tabachnick and Fidell, 2007).

3. Results

The online survey link was accessed a total of 1036 times and completed by 729 adult participants (response rate: 70.4%), with Kijiji (65.9%), Craigslist (21.8%), Winnipeg (5.5%), macanxiety.com (6.6%) and Reddit (0.3%) serving as the primary sources of respondents.

3.1. Sample demographics

The mean age of the final sample was 40.21 ± 13.48 years (age range: 16–77 years). Data for seven individuals was excluded as 6 individuals were under the age of 16 and one person reported an age of 97. The majority of the sample was white/Caucasian (83.8%), female