**Supplementary Material to:** Psychosocial Interventions for Hoarding Disorder: A Systematic Review

|  |  |
| --- | --- |
| **Content** | **Page** |
| **Supplementary Material 1S:** Search Terms and Strategy | 2 – 3 |
| **Supplementary Material 2S:** Quality assessment for included studies (MMAT, 2018) | 4 |
| **Supplementary Material 3S:** Key Characteristics of Included Interventions | 5 – 6 |
| **Supplementary Material 4S:** Data Extraction Template | 7 |
| **Supplementary Material 5S:** Standardised Hoarding Outcome Measures | 8 |
| **Supplementary Material 6S:** PRISMA 2020 checklist (Page et al., 2020) | 9 – 12 |
| **Supplementary Material 7S:** SWiM checklist (Campbell et al., 2020)  | 13 – 14 |
| **Supplementary Material 8S:** Reason for Exclusion at Full Text Screening | 15 – 19 |
| **Supplementary Material 9S:** References for Supplementary Material | 20 – 26 |

**Supplementary Material 1S: Search Terms and Strategy**

The search terms below were adapted for each included electronic database and information source. The search was conducted for the time period between January 1993 and April 2021 (where a database only allows year specification, then 1993 to 2021 was used). The searches were all conducted on 7th May 2021. The searches were repeated on 15th April 2022 to check for new studies that may have been relevant.

**Table 1S**

*Search Strategy across electronic databases*

| **Source** | **Search Strategy** |
| --- | --- |
| Electronic Database: PsycInfo | Accessed via: APA PsycNETFields: AllDate: 1993 to 20211. local authorit\* OR management OR community OR partnership OR MDT OR multi-disciplinary team OR fire service OR nurse OR occupational therapist OR organi\* OR socia\*2. intervention OR treatment3. hoarding disorder4. 1 AND 2 AND 3 |
| Electronic Database: MEDLINE | Accessed via: PubMedFields: AllDate: 1993 to 20211. (hoarding disorder) 2. (intervention) OR (treatment3. (local authorit\*) OR (management) OR (community) OR (partnership) OR (MDT) OR (multi-disciplinary team) OR (fire service) OR (nurse) OR (occupational therapist) OR (organi\*) OR (socia\*) 4. 1 AND 2 AND 3 |
| Electronic Database: Embase, Embase Classic, MEDLINE | Accessed via: Embase.comQuick Limits: HumanFields: AllDate: 1993 to 20211. (‘hoarding disorder’/exp OR ‘hoarding disorder’)2. (‘local authority'/exp OR ‘local authority’) OR ('community'/exp OR 'community') OR ('management'/exp OR 'management') OR ('partnership'/exp OR 'partnership') OR ('multidisciplinary team'/exp OR 'multidisciplinary team') OR ('fire service'/exp OR fire service) OR ('nurse'/exp OR 'nurse') OR (('occupational therapist'/exp OR 'occupational therapist') OR (organiser) OR ('social'/exp OR 'social') 3. ('intervention'/exp OR 'intervention') OR ('treatment'/exp OR 'treatment') 4. 1 AND 25. 4 AND 3 |
| Electronic Database: PsyArXiv | Accessed via: PsyArXiv.comFields: AllDate: All1. “Hoarding Disorder” |

**Supplementary Material 2S: Quality assessment for included studies (MMAT, 2018)**

**Table 2S**

*Quality assessment for included studies (MMAT, 2018)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Study | Screening | Qualitative | Quantitative RCT  | Quantitative non-randomised | Quantitative descriptive | Mixed methods |
| **1** | **2** | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** | **1** | **2** | **3** | **4** | **5** |
| Kwok et al., 2018 | Y | Y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Y | ? | Y | N | Y |  |  |  |  |  |
| Kysow et al., 2020 | Y | Y |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Y | Y | Y | N | Y |  |  |  |  |  |
| MBHP, 2015 | Y | Y |  |  |  |  |  |  |  |  |  |  | ? | Y | ? | N | Y | Y | Y | Y | Y | Y |  |  |  |  |  |
| Millen et al., 2020 | Y | Y |  |  |  |  |  |  |  |  |  |  | ? | Y | Y | ? | Y |  |  |  |  |  |  |  |  |  |  |
| Pittman et al., 2021 | Y | Y | Y | Y | Y | N | ? |  |  |  |  |  | N | Y | N | ? | Y |  |  |  |  |  | Y | Y | Y | ? | N |

*Note.* Within this table: Y = Yes, N = No, ? = Can’t tell

**Supplementary Material 3S: Key Characteristics of Included Interventions**

**Table 3S**

*Key Characteristics of Included Interventions*

| **Name of Intervention** | **Description of Intervention**  | **Time span and mode of delivery**  |
| --- | --- | --- |
| Hoarding Action Response Team (HART) Model (Kwok, et al., 2018; Kysow, et al., 2020)  | Harm reduction and case management approach. Relationship building, goal setting and service coordination. Telephone outreach, motivation building and problem solving, in person home visits. Fire code monitoring, linking client with health services, liaison with other stakeholders and advocacy. | Individual mode of delivery. Frequency of meeting dependent on participant request, with an aim of monthly (Kysow et al., 2020). Median duration of intervention was between approximately 4.5 months (Kwok, 2018) and approximately 9 months (Kysow et al., 2020). |
| Hoarding Intervention and Tenancy Preservation Project (HI/TPP; Metropolitan Boston Housing Partnership, 2015) | Meetings with case managers to aid skill development for managing possessions, and to help sort and discard items to reduce clutter. Individualised case management processes, referrals to community partners and ongoing monitoring (post successful inspection) are also factored into the intervention. | Individual weekly or biweekly meetings over an average period of 6 months |
| Critical Time Intervention - HD (CTI-HD; Millen, et al., 2020) | Six treatments and services were offered as part of CTI-HD. These included facilitated self-help group therapy, legal support, decluttering support, psychiatric assessment, coordinating family and support networks, as well as support with accessing relevant benefits. Phase 1 (3 months) – engage and build rapport with clients. This includes assessment, referrals for self-help groups, and weekly home visits and weekly check-ins to assess progress on decluttering.Phase 2 (4 months) – check in every 2 weeks, determine support network functioning, adjust plans as needed. Consider risk of relapse and build hope for avoiding relapse. Phase 3 (2 months) – optimise support networks, one check-in per month, plan endings. | Individual mode of delivery (some group components if opt-in), with the three phases of the intervention completed over a 9-month period. Individual check-ins are phased out over the course of the three phases. |
| Cognitive Rehabilitation and Exposure/Sorting Therapy (CREST) Community Program (CCP; Pittman, et al., 2021) | This intervention included compensatory cognitive training (memory, planning, problem solving, cognitive flexibility; approx. 7 sessions) and exposure to discard). Relapse prevention planning is also typically included within CREST. The team was allocated time for care management, peer support, after-care groups and family psychoeducation. | Individual weekly sessions, with opportunity to engage in peer support, after-care groups and family psychoeducation.Optimally between 20 and 40 sessions of CREST dependent on severity of presentation. |

**Supplementary Material 4S: Data extraction Template**

**Table 4S**

*Data Extraction Template*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Study ID** | **Title** | **Country in which Study Conducted** | **Setting (eg. community, inpatient, supported residential)** | **Other Comments** | **Lead Author** | **Study Citation** | **Year of Publication** | **Study Design** | **Additional details relating to Design** | **Allocation Sequence Concealment?** | **Blinding?** |
|  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sequence Generation?** | **Study Duration (total)** | **Inclusion Criteria** | **Exclusion Criteria** | **Total Number of Participants (per group and overall)** | **Diagnosis** | **Mean Age** | **% Female** | **Intervention** | **Total Number of Groups** |
|  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **What aspect of HD does this intervention target?** | **Designation/ Role of Individual(s) delivering intervention** |  | **Number of sessions of intervention** | **Duration of Intervention (time to complete)** | **Frequency of sessions** | **Outcome 1** | **Baseline Data** | **End of Study Data** | **Follow Up Data** |
|  |  |  |  |  |  |  |  |  |  |

**Supplementary Materials 5S: Standardised Hoarding Outcome Measures**

The SI-R (Frost et al., 2004) is a 23-item questionnaire. This measure includes three subscales: clutter, difficulty discarding and excessive acquisition. This measure is often used to inform diagnostic classification in HD. The clinical cut-off on this measure is 41 for the total score, with scores at or above this being suggestive of HD.

 The Clutter Image Rating CIR (Frost et al., 2008) is an image-based scale which is used to aid assessment of clutter severity. Three residential rooms are the focus of this measure – living rooms, kitchens and bedrooms. The CIR consists of 9 numbered images for each room, with an increase in number correlating with an increase in clutter. The CIR can be used as self-report, or used by an external observer. On the CIR, a score of 4 or higher suggests an individual may need support for clutter linked to their HD.

 The Hoarding Rating Scale (HRS;Tolin et al., 2010) is a five-item questionnaire, which assesses clutter, difficulty discarding, excessive acquisition and the consequent distress and impairment. A clinical cut-off score of 14 has been recommended in the literature (Tolin et al., 2010), and is commonly utilised within research as a criterion for meeting HD diagnostic criteria.

 The Health Obstacles Mental health Endangerment Structure and safety Risk Assessment Tool (HOMES; Bratiotis et al., 2011) allows for structured assessment of risk in hoarded homes. The tool considers risks the impact of multiple psychosocial factors including safety of the home, risks to health and wellbeing of the person with HD and their family, as well as mental health factors.

**Supplementary Materials 6S: PRISMA 2020 checklist (Page et al., 2020)**

**Table 6S**

*PRISMA 2020 checklist (Page et al., 2020)*

| **Section and Topic**  | **Item #** | **Checklist item**  | **Location where item is reported (Page Number)**  |
| --- | --- | --- | --- |
| **TITLE**  |  |
| Title  | 1 | Identify the report as a systematic review. | 1 |
| **ABSTRACT**  |  |
| Abstract  | 2 | See the PRISMA 2020 for Abstracts checklist. | 2 |
| **INTRODUCTION**  |  |
| Rationale  | 3 | Describe the rationale for the review in the context of existing knowledge. | 3-6 |
| Objectives  | 4 | Provide an explicit statement of the objective(s) or question(s) the review addresses. | 6 |
| **METHODS**  |  |
| Eligibility criteria  | 5 | Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses. | 7-8, 9-10 |
| Information sources  | 6 | Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted. | 8 |
| Search strategy | 7 | Present the full search strategies for all databases, registers and websites, including any filters and limits used. | Supplementary 1S |
| Selection process | 8 | Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process. | 9 |
| Data collection process  | 9 | Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process. | 9 |
| Data items  | 10a | List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect. | 8 |
| 10b | List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information. | Supplementary 4S |
| Study risk of bias assessment | 11 | Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process. | 9 |
| Effect measures  | 12 | Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results. | 19-20 |
| Synthesis methods | 13a | Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)). | N/A |
| 13b | Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions. | 20 |
| 13c | Describe any methods used to tabulate or visually display results of individual studies and syntheses. | - |
| 13d | Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used. | 9-10, 12 |
| 13e | Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression). | 12 |
| 13f | Describe any sensitivity analyses conducted to assess robustness of the synthesized results. | - |
| Reporting bias assessment | 14 | Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases). | - |
| Certainty assessment | 15 | Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome. | - |
| **RESULTS**  |  |
| Study selection  | 16a | Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram. | 10-11 |
| 16b | Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded. | - |
| Study characteristics  | 17 | Cite each included study and present its characteristics. | 12-15 |
| Risk of bias in studies  | 18 | Present assessments of risk of bias for each included study. | 13-15 |
| Results of individual studies  | 19 | For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots. | 19-20 |
| Results of syntheses | 20a | For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies. | - |
| 20b | Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect. | N/A |
| 20c | Present results of all investigations of possible causes of heterogeneity among study results. | N/A |
| 20d | Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results. | N/A |
| Reporting biases | 21 | Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed. | - |
| Certainty of evidence  | 22 | Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed. | - |
| **DISCUSSION**  |  |
| Discussion  | 23a | Provide a general interpretation of the results in the context of other evidence. | 21-24 |
| 23b | Discuss any limitations of the evidence included in the review. | 25 |
| 23c | Discuss any limitations of the review processes used. | 25 |
| 23d | Discuss implications of the results for practice, policy, and future research. | 25-27 |
| **OTHER INFORMATION** |  |
| Registration and protocol | 24a | Provide registration information for the review, including register name and registration number, or state that the review was not registered. | 9 |
| 24b | Indicate where the review protocol can be accessed, or state that a protocol was not prepared. | 9 |
| 24c | Describe and explain any amendments to information provided at registration or in the protocol. | N/A |
| Support | 25 | Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review. | N/A |
| Competing interests | 26 | Declare any competing interests of review authors. | N/A |
| Availability of data, code and other materials | 27 | Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review. | Not currently available |

**Supplementary Materials 7S: SWiM checklist (Campbell et al., 2020)**

**Table 7S**

*SWiM Checklist (Campbell et al., 2020)*

|  |
| --- |
| **SWiM is intended to complement and be used as an extension to PRISMA** |
| **SWiM reporting item** | **Item description** | **Page in manuscript where item is reported** |
| *Methods* |
| **1** Grouping studies for synthesis | 1a) Provide a description of, and rationale for, the groups used in the synthesis (e.g., groupings of populations, interventions, outcomes, study design)  | 9-10, 12 |
| 1b) Detail and provide rationale for any changes made subsequent to the protocol in the groups used in the synthesis | 12 |
| **2** Describe the standardised metric and transformation methods used | Describe the standardised metric for each outcome. Explain why the metric(s) was chosen, and describe any methods used to transform the intervention effects, as reported in the study, to the standardised metric, citing any methodological guidance consulted | 9, 19-20 |
| **3** Describe the synthesis methods | Describe and justify the methods used to synthesise the effects for each outcome when it was not possible to undertake a meta-analysis of effect estimates | 12 |
| **4** Criteria used to prioritise results for summary and synthesis | Where applicable, provide the criteria used, with supporting justification, to select the particular studies, or a particular study, for the main synthesis or to draw conclusions from the synthesis (e.g., based on study design, risk of bias assessments, directness in relation to the review question) | N/A (all studies) |
| **SWiM reporting item** | **Item description** | **Page in manuscript where item is reported** |
| **5** Investigation of heterogeneity in reported effects | State the method(s) used to examine heterogeneity in reported effects when it was not possible to undertake a meta-analysis of effect estimates and its extensions to investigate heterogeneity | 9-10, 12 |
| **6** Certainty of evidence | Describe the methods used to assess certainty of the synthesis findings | 9 |
| **7** Data presentation methods | Describe the graphical and tabular methods used to present the effects (e.g., tables, forest plots, harvest plots).Specify key study characteristics (e.g., study design, risk of bias) used to order the studies, in the text and any tables or graphs, clearly referencing the studies included | 12 |
| *Results* |
| **8** Reporting results | For each comparison and outcome, provide a description of the synthesised findings, and the certainty of the findings. Describe the result in language that is consistent with the question the synthesis addresses, and indicate which studies contribute to the synthesis |  10-21 |
| *Discussion* |
| **9** Limitations of the synthesis | Report the limitations of the synthesis methods used and/or the groupings used in the synthesis, and how these affect the conclusions that can be drawn in relation to the original review question |  25 |

**Supplementary Material 8S: Reason for Exclusion at Full Text Screening**

| Authors (Year) | Title | Reason for Exclusion |
| --- | --- | --- |
| Aso, Y.; Yamaoka, K.; Nemoto, A.; Naganuma, Y.; Saito, M. (2017) | Effectiveness of a 'Workshop on Decluttering and Organising' programme for teens and middle-aged adults with difficulty decluttering: a study protocol of an open-label, randomised, parallel-group, superiority trial in Japan | Wrong patient population  |
| Ayers, C.; Eckfield, M.; Mackin, S.; Mathews, C. A. (2013) | Hoarding disorder in older adults: A multidisciplinary team approach | Abstract of presentation - no data provided |
| Bodryzlova, Y.; O'Connor, K. (2018) | Factors affecting the referral rate of the hoarding disorder at primary mental health care in Quebec | No Treatment Delivered |
| Bratiotis, C. (2013) | Community Hoarding Task Forces: A comparative case study of five task forces in the United States. | No Treatment Delivered |
| Bratiotis, C.; Woody, S. R. (2020) | What's so complicated about hoarding? A view from the nexus of psychology and social work | No Treatment Delivered |
| Bratiotis, C.; Woody, S. R.; Lauster, N. (2019) | Coordinated community-based hoarding interventions: Evidence of case management practices | No Treatment Delivered  |
| Calamari, J.E.; Wilkes, C.M.; Prouvost, C. (2017) | The nature and management of older adults' obsessive-compulsive and obsessive-compulsive-related disorders | No Treatment Delivered |
| Chater, C; Shaw, J.; McKay, S.M. (2013) | Hoarding in the Home: A toolkit for the home health care provider. | No Treatment Delivered |
| Crone, C.; Angel, Z.; Isemann, S.; Norberg, M. M. (2020) | Clutter-Buddies: A volunteer program to assist clients undergoing group cognitive behavioural therapy | Wrong intervention  |
| Frank, C.; Misiaszek, B. (2012) | Approach to hoarding in family medicine: beyond reality television | Wrong intervention |
| Freimund, J.; Maiaroto, M. (2020) | Hoarding behavior in late-life | Abstract of presentation - no data provided  |
| Frost, R. O.; Ruby, D.; Shuer, L. J. (2012) | The Buried in Treasures Workshop: waitlist control trial of facilitated support groups for hoarding | Wrong intervention |
| Gonzalez, L.S.; Wu, T.; Baweja, R. (2016) | Treatment implications in a geriatric schizophrenia patient with hoarding | Wrong intervention |
| Grisham, J. (2013) | Defining and treating hoarding disorder | Abstract of presentation - no data provided |
| Huege, S.; Davidson, E.; Mayes, T. (2020) | Session 301 | Abstract of presentation - no data provided  |
| Iqbal, Y.S. (2016) | The effect of group based cognitive rehabilitation and exposure therapy on executive functioning in adults with hoarding disorder: A randomized controlled trial pilot study | Unable to Access Full Text |
| Kiosses, D. N.; Ayers, C. R.; Wetherell, J. L.; Sirey, J. A. (2014) | Moving psychosocial interventions to populations with challenging problems | Abstract of presentation - no data provided |
| Kress, V.E.; Stargell, N.A.; Zoldan, C.A.; Paylo, M.J. (2016) | Hoarding disorder: Diagnosis, assessment, and treatment | No Treatment Delivered |
| Lacombe, M. C.; Cossette, B. (2018) | The Role of Public Health in the Development of a Collaborative Agreement with Rural and Semi-urban Partners in Cases of Severe Domestic Squalor and Hoarding | No Treatment Delivered  |
| Lenders, T.; Kuster, J.; Bispinck, R. (2015) | [Management of Uninhabitable Homes - Investigation of 186 Cases of Hoarding, Domestic Neglect and Squalor in Dortmund (Germany)] | Unable to Access Full Text  |
| Marquis, P.; Sprowls, C. (2016) | EMDR therapy and hoarding: The hoarding protocol | No Treatment Delivered  |
| Mathews, C.A.; Mackin, R.S.; Chou, C-Y.; Uhm, S.Y.; Bain, L.D.; Stark, S.J.; Gause, M.; Vigil, O.R.; Franklin, J.; Salazar, M.; Plumadore, J.; Smith, L.C.; Komaiko, K.; Howell, G.; Vega, E.; Chan, J.; Eckfield, M.B.; Tsoh, J. Y.; Delucchi, K. (2018) | Randomised clinical trial of community-based peer-led and psychologist-led group treatment for hoarding disorder | Wrong intervention |
| Muroff, J.; Steketee, G.; Bratiotis, C.; Ross, A. (2012) | Group cognitive and behavioral therapy and bibliotherapy for hoarding: A pilot trial | Wrong intervention |
| Muroff, J.; Underwood, P. (2016) | Treatment of an adult with hoarding disorder | Wrong intervention |
| Murphy, K. (2014) | Hoarding: A life-threatening disorder: Diagnosing, treating and surviving this hazardous condition | No Treatment Delivered |
| Nordsletten, A.E.; Mataix-Cols, D. (2015) | Hoarding disorder | No Treatment Delivered |
| Roane, D. M.; Landers, A.; Sherratt, J. (2018) | Addressing the challenge of hoarding in older adults | Abstract of presentation - no data provided |
| Roane, D. M.; Landers, A.; Todman, M.; Petrovska, E. (2019) | Combining cognitive-behavioral therapy and social support for older adults with hoarding disorder | Abstract of presentation - no data provided |
| Rodriguez, C.; Panero, L.; Tannen, A. (2010) | Personalized intervention for hoarders at risk of eviction | Wrong intervention |
| Rodriguez, C.; Levinson, A.; Patel, S.; Rottier, K.; Zwerling, J.; Essock, S.; Shuer, L.; Frost, R.; Simpson, B. (2014) | Acceptability of treatments and services for individuals with hoarding behaviors | No Treatment Delivered |
| Rodriguez, C.I.; Levinson, A.; Patel, S.R.; Rottier, K.; Zwerling, J.; Essock, S.; Shuer, L.; Frost, R.O.; Simpson, H.B. (2016) | Acceptability of treatments and services for individuals with hoarding behaviors | No Treatment Delivered |
| Seniors Association of Greater Edmonton (2013) | A Proposal for an Integrated Community Response to Hoarding in Edmonton | No Treatment Delivered |
| Snowdon, J. & Halliday, G. (2009) | How and when to intervene in cases of severe domestic squalor | No Treatment Delivered |
| Sorrell, J. M. (2012) | Understanding hoarding in older adults | Abstract of presentation - no data provided  |
| Steketee, G. (2018) | Presidential address: Team science across disciplines: Advancing CBT research and practice on hoarding | No Treatment Delivered |
| Tolin, D. F. (2011) | Understanding and treating hoarding: A Biopsychosocial perspective | No Treatment Delivered |
| Uhm, S. Y.; Tsoh, J. Y.; Mackin, R. S.; Gause, M.; Chan, J.; Franklin, J.; Eckfield, M.; Salazar, M.; Vigil, O.; Bain, D.; Stark, S.; Vega, E.; Delucchi, K. L.; Mathews, C. A. (2016) | Comparison of a peer facilitated support group to cognitive behavior therapy: Study protocol for a randomized controlled trial for hoarding disorder | Wrong intervention |
| Zakrzewski J.J.; Gillett D.A.; Vigil O.R.; Smith L.C.; Komaiko, K.; Chou, C.Y.; Y. Uhm S; Bain, L.D.; Stark S.J.; Gause, M.; Howell, G.; Vega, E.; Chan, J.; Eckfield M.B.; Tsoh J.Y.; Delucchi, K.; Mackin, R. S.; Mathews C.A. (2020) | Visually mediated functioning improves following treatment of hoarding disorder | Wrong intervention |

**Supplementary Materials 9S: References**

Aso, Y., Yamaoka, K., Nemoto, A., Naganuma, Y., & Saito, M. (2017). Effectiveness of a 'Workshop on Decluttering and Organising' programme for teens and middle-aged adults with difficulty decluttering: a study protocol of an open-label, randomised, parallel-group, superiority trial in Japan. *BMJ Open, 7(6)*, e014687. DOI: <https://doi.org/10.1136/bmjopen-2016-014687>

Ayers, C., Eckfield, M., Mackin, S., & Mathews, C. A. (2013). Hoarding disorder in older adults: A multidisciplinary team approach [Conference Abstract]. American Journal of Geriatric Psychiatry, 21(3), S18-S19. <https://doi.org/10.1016/j.jagp.2012.12.048>

Bodryzlova, Y., & O'Connor, K. (2018, Aug). Factors Affecting the Referral Rate of the Hoarding Disorder at Primary Mental Health Care in Quebec. *Community Ment Health J, 54(6)*, 773-781. <https://doi.org/10.1007/s10597-018-0234-z>

Bratiotis, C., Sorrentino Schmalisch, C., & Steketee, G. (2011). *The Hoarding Handbook: A Guide for Human Service Professionals*. Oxford University Press.

Bratiotis, C. (2013). Community Hoarding Task Forces: A comparative case study of five task forces in the United States. *Health & Social Care in the Community, 21*, 245-253. [https://doi.org/https://doi.org/10.1111/hsc.12010](https://doi.org/https%3A//doi.org/10.1111/hsc.12010)

Bratiotis, C., Woody, S. R., & Lauster, N. (2019). Coordinated community-based hoarding interventions: Evidence of case management practices. *Families in Society: The Journal of Contemporary Human Services, 100*, 93-105. [https://doi.org/https://doi.org/10.1177/1044389418802450](https://doi.org/https%3A//doi.org/10.1177/1044389418802450)

Bratiotis, C., & Woody, S. R. (2020). What's so complicated about hoarding? A view from the nexus of psychology and social work. *Journal of Obsessive-Compulsive and Related Disorders, 24*. <https://doi.org/10.1016/j.jocrd.2019.100496>

Calamari, J. E., Wilkes, C. M., & Prouvost, C. (2017). The nature and management of older adults' obsessive-compulsive and obsessive-compulsive-related disorders. In *The Wiley handbook of obsessive compulsive disorders, Vol. 1-2* (pp. 1097-1118). Wiley Blackwell. <https://doi.org/10.1002/9781118890233.ch61>

Campbell, M., McKenzie, J. E., Sowden, A., Katikireddi, S. V., Brennan, S. E., Ellis, S., Hartmann-Boyce, J., Ryan, R., Shepperd, S., Thomas, J., Welch, V., & Thomson, H. (2020). Synthesis without meta-analysis (SWiM) in systematic reviews: reporting guideline. *BMJ, 368,* l6890. <https://doi.org/10.1136/bmj.l6890>

Chater, C., Shaw, J., & McKay, S. M. (2013). Hoarding in the Home: A toolkit for the home health care provider. *Home Healthcare Nurse, 31*, 144-154. <https://doi.org/10.1097/NHH.0b013e3182838847>

Crone, C., Angel, Z., Isemann, S., & Norberg, M. M. (2020). Clutter-Buddies: A volunteer program to assist clients undergoing group cognitive behavioural therapy. *Journal of Obsessive-Compulsive and Related Disorders, 27*. <https://doi.org/10.1016/j.jocrd.2020.100559>

Frank, C., & Misiaszek, B. (2012). Approach to hoarding in family medicine: Beyond reality television. *Canadian Family Physician, 58*(10), 1087-1091.

Freimund, J., & Maiaroto, M. (2020). Hoarding behavior in late-life [Conference Abstract]. *Journal of the American Geriatrics Society, 68*(SUPPL 1), S192. <https://doi.org/10.1111/jgs.16431>

Frost, R. O., Ruby, D., & Shuer, L. J. (2012, Nov). The Buried in Treasures Workshop: waitlist control trial of facilitated support groups for hoarding. *Behav Res Ther, 50*(11), 661-667. <https://doi.org/10.1016/j.brat.2012.08.004>

Frost, R., Steketee, G., & Grisham, J. (2004). Measurement of compulsive hoarding: saving inventory - revised. *Behav Res Ther, 42(10)*, 1163-1182. <https://doi.org/10.1016/j.brat.2003.07.006>

Frost, R., Steketee, G., Tolin, D. F., & Renaud, S. (2008). Development and validation of the Clutter Image Rating. *Journal of Psychopathology and Behavioral Assessment, 32,* 401-417. [https://doi.org/10.1007/s10862-007-9068-7](https://psycnet.apa.org/doi/10.1007/s10862-007-9068-7)

Gonzalez, L. S., Wu, T., & Baweja, R. (2016). Treatment Implications in a Geriatric Schizophrenia Patient with Hoarding [Article]. *GeroPsych: The Journal of Gerontopsychology and Geriatric Psychiatry, 29*(3), 163-168. <https://doi.org/10.1024/1662-9647/a000152>

Grisham, J. (2013). Defining and treating hoarding disorder [Conference Abstract]. *Australian and New Zealand Journal of Psychiatry, 47*, 34. <https://doi.org/10.1177/0004867412486854>

Huege, S., Davidson, E., & Mayes, T. (2020). Session 301 [Conference Abstract]. *American Journal of Geriatric Psychiatry, 28*(4), S24. <https://doi.org/10.1016/j.jagp.2020.01.046>

Hong, Q.N., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M-P., Griffiths, F., Nicolau, B., O’Cathain, A., Rousseau, M-C., Vedel, I. (2018). *Mixed Methods Appraisal Tool (MMAT)*. Registration of Copyright (#1148552), Canadian Intellectual Property Office, Industry Canada.

Iqbal, Y. S. (2016). *The effect of group based cognitive rehabilitation and exposure therapy on executive functioning in adults with hoarding disorder: A randomized controlled trial pilot study.* ProQuest Information & Learning. US.

Kiosses, D. N., Ayers, C. R., Wetherell, J. L., & Sirey, J. A. (2014). Moving psychosocial interventions to populations with challenging problems [Conference Abstract]. *American Journal of Geriatric Psychiatry, 22*(3), S24-S25. DOI: 10.1016/j.jagp.2013.12.035

Kress, V. E., Stargell, N. A., Zoldan, C. A., & Paylo, M. J. (2016). Hoarding disorder: Diagnosis, assessment, and treatment. *Journal of Counselling & Development, 94*(1), 83-90. <https://doi.org/10.1002/jcad.12064>

Kwok, N., Bratiotis, C., Luu, M., Lauster, N., Kysow, K., & Woody, S. R. (2018). Examining the role of fire prevention on hoarding response teams: Vancouver fire and rescue services as a case study. *Fire technology, 54(1),* 57-73. <https://doi.org/10.1007/s10694-017-0672-0>

Kysow, K., Bratiotis, C., Lauster, N. & Woody, S.R. (2020). How can cities tackle hoarding? Examining an intervention program bringing together fire and health authorities in Vancouver. *Health and Social Care Community, 28,* 1160-1169. <https://doi.org/10.1111/hsc.12948>

Lacombe, M. C., & Cossette, B. (2018, Aug). The Role of Public Health in the Development of a Collaborative Agreement with Rural and Semi-urban Partners in Cases of Severe Domestic Squalor and Hoarding. *Community Ment Health J, 54*(6), 766-772. <https://doi.org/10.1007/s10597-017-0192-x>

Lenders, T., Kuster, J., & Bispinck, R. (2015). Management of Uninhabitable Homes - Investigation of 186 Cases of Hoarding, Domestic Neglect and Squalor in Dortmund (Germany). *Fortschritte der Neurologie Psychiatrie, 83*(12), 695-701. <https://doi.org/10.1055/s-0041-109577>

Marquis, P., & Sprowls, C. (2016). EMDR therapy and hoarding: The hoarding protocol. In *Eye movement desensitization and reprocessing (EMDR) therapy scripted protocols and summary sheets: Treating anxiety, obsessive-compulsive, and mood-related conditions.* (pp. 171-200). Springer Publishing Co.

Mathews, C. A., Mackin, R. S., Chou, C. Y., Uhm, S. Y., Bain, L. D., Stark, S. J., Gause, M., Vigil, O. R., Franklin, J., Salazar, M., Plumadore, J., Smith, L. C., Komaiko, K., Howell, G., Vega, E., Chan, J., Eckfield, M. B., Tsoh, J. Y., & Delucchi, K. (2018). Randomised clinical trial of community-based peer-led and psychologist-led group treatment for hoarding disorder. *BJPsych Open, 4*(4), 285-293. <https://doi.org/10.1192/bjo.2018.30>

Metropolitan Boston Housing Partnership (2015). Rethinking Hoarding Intervention: MBHP’s analysis of the Hoarding Intervention and Tenancy Preservation Project.

Millen, A.M., Levinson, A., Linkovski, O., Sauer, L., Thaler, T., Nick, G.A., Johns, G.K., Vargas, S.M., Rottier, K.A., Joyner, E., Gibson, R.B., Zierling, J., Sonnenfeld, D., Shapiro, A.M., Tannen, A., Conover, S., Essock, S., Herman, D., Simpson, H.B. & Rodriguez, C.I. (2020). Pilot Study Evaluating Critical Time Intervention for Individuals With Hoarding Disorder at Risk for Eviction. *Psychiatric Services, 71*, 405-408. <https://doi.org/10.1176/appi.ps.201900447>

Muroff, J., Steketee, G., Bratiotis, C., & Ross, A. (2012). Group cognitive and behavioral therapy and bibliotherapy for hoarding: A pilot trial. *Depression and Anxiety, 29*(7), 597-604. <https://doi.org/10.1002/da.21923>

Muroff, J., & Underwood, P. (2016). Treatment of an adult with hoarding disorder. In *Clinical handbook of obsessive-compulsive and related disorders: A case-based approach to treating pediatric and adult populations.* (pp. 241-258). Springer International Publishing AG. <https://doi.org/10.1007/978-3-319-17139-5_17>

Murphy, K. (2014). Hoarding: A life-threatening disorder: Diagnosing, treating and surviving this hazardous condition. *Nursing Critical Care, 9*(6), 42-47. <https://doi.org/10.1097/01.NUMA.0000449759.68876.6e>

Nordsletten, A. E., & Mataix-Cols, D. (2015). Hoarding disorder. In *Handbook on obsessive-compulsive and related disorders.* (pp. 99-134). American Psychiatric Publishing, Inc.

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffman, T. C., Mulrow, C. D., Shamseer, L., Tetzladd, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., Stewart, L. A., Thomas, J., Tricco, A. C., Welch, V., Whiting, P., & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *Systematic Reviews, 10*, Article 89. <https://doi.org/10.1136/bmj.n71>

Pittman, J. O., Davidson, E. J., Dozier, M. E., Blanco, B. H., Baer, K. A., Twamley, E. W., Mayes, T.L., Sommerfeld, D.H., Lagare, T. & Ayers, C. R. (2021). Implementation and evaluation of a community-based treatment for late-life hoarding. *International Psychogeriatrics, 33(9),* 977-986. DOI: 10.1017/S1041610220000241

Roane, D. M., Landers, A., & Sherratt, J. (2018). Addressing the challenge of hoarding in older adults [Conference Abstract]. *American Journal of Geriatric Psychiatry, 26*(3), S10. <https://doi.org/10.1016/j.jagp.2018.01.018>

Roane, D. M., Landers, A., Todman, M., & Petrovska, E. (2019). Combining cognitive-behavioral therapy and social support for older adults with hoarding disorder [Conference Abstract]. *Journal of the American Geriatrics Society, 67*, S256. <https://doi.org/10.1111/jgs.15898>

Rodriguez, C., Panero, L., & Tannen, A. (2010). Personalized intervention for hoarders at risk of eviction. *Psychiatr Serv, 61*, 205. <https://doi.org/10.1176/ps.2010.61.2.205>

Rodriguez, C., Levinson, A., Patel, S., Rottier, K., Zwerling, J., Essock, S., Shuer, L., Frost, R., & Simpson, B. (2014). Acceptability of treatments and services for individuals with hoarding behaviors [Conference Abstract]. *Neuropsychopharmacology, 39*, S395. <https://doi.org/10.1038/npp.2014.281>

Rodriguez, C. I., Levinson, A., Patel, S. R., Rottier, K., Zwerling, J., Essock, S., Shuer, L., Frost, R. O., & Simpson, H. B. (2016). Acceptability of treatments and services for individuals with hoarding behaviors. *Journal of Obsessive-Compulsive and Related Disorders, 11*, 1-8. <https://doi.org/10.1016/j.jocrd.2016.07.001>

Seniors Association of Greater Edmonton (2013). A Proposal for an Integrated Community Response to Hoarding in Edmonton.

Snowdon, J., & Halliday, G. (2011). A study of severe domestic squalor: 173 cases referred to an old age psychiatry service [Article]. *International Psychogeriatrics, 23*(2), 308-314. <https://doi.org/10.1017/S1041610210000906>

Sorrell, J. M. (2012, Mar). Understanding hoarding in older adults. *J Psychosoc Nurs Ment Health Serv, 50*(3), 17-21. <https://doi.org/10.3928/02793695-20120208-02>

Steketee, G. (2018). Presidential address: Team science across disciplines: Advancing CBT research and practice on hoarding. *Behavior Therapy, 49*(5), 643-652. <https://doi.org/10.1016/j.beth.2018.05.001>

Tolin, D. F. (2011). Understanding and treating hoarding: A Biopsychosocial perspective. *Journal of Clinical Psychology, 67*, 517-526. [https://doi.org/https://doi.org/10.1002/jclp.20795](https://doi.org/https%3A//doi.org/10.1002/jclp.20795)

Tolin, D. F., Meunier, S., Frost, R., & Steketee, G. (2010). Course of compulsive hoarding and its relationship to life events. *Depression and Anxiety, 27(9)*, 829-838. DOI: 10.1002/da.20684

Uhm, S. Y., Tsoh, J. Y., Mackin, R. S., Gause, M., Chan, J., Franklin, J., Eckfield, M., Salazar, M., Vigil, O., Bain, D., Stark, S., Vega, E., Delucchi, K. L., & Mathews, C. A. (2016). Comparison of a peer facilitated support group to cognitive behavior therapy: Study protocol for a randomized controlled trial for hoarding disorder. *Contemporary Clinical Trials, 50*, 98-105. <https://doi.org/10.1016/j.cct.2016.07.018>

Zakrzewski J.J.; Gillett D.A.; Vigil O.R.; Smith L.C.; Komaiko, K.; Chou, C.Y.; Y. Uhm S; Bain, L.D.; Stark S.J.; Gause, M.; Howell, G.; Vega, E.; Chan, J.; Eckfield M.B.; Tsoh J.Y.; Delucchi, K.; Mackin, R. S.; Mathews C.A. (2020). Visually mediated functioning improves following treatment of hoarding disorder. *Journal of Affective Disorders, 264,* 310-317. <https://doi.org/10.1016/j.jad.2019.12.030>.