

Psychopharmacology for Obsessive-Compulsive Related Disorders

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Disclosures

Emalex – Medical Advisory Board, Consulting fees

Outline

- What are obsessive-compulsive related disorders (OCRDs)?
 - Body-focused repetitive behavior disorders (BFRBs)
 - Body dysmorphic disorder (BDD)
 - Hoarding Disorder (HD)
- Discussion of clinical presentation and psychopharmacology

Obsessive-Compulsive Related Disorders

- Group of conditions characterized by obsessive thoughts and/or compulsive behaviors
 - Undesired repetitive thoughts and behaviors
- In DSM-5:
 - OCD
 - Body Dysmorphic Disorder
 - Hoarding Disorder
 - Body-focused Repetitive Behavior Disorders (BFRBs): trichotillomania (TTM), and skin picking disorder, SPD
- ICD-11 : Olfactory reference syndrome, hypochondriasis, Tourette syndrome
- Genetic studies support relationship between OCRDs
 - Factor specific to all DSM-5 OCRDs
 - Factor specific to TTM / SPD within OCD

Monzani et al 2014

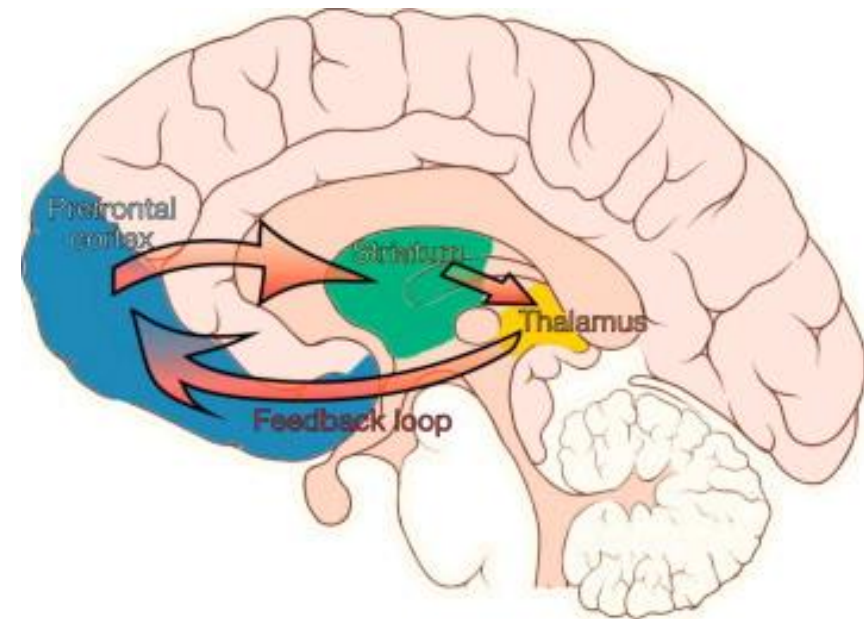
Impulsive-Compulsive Aspects

- Impulsive-compulsive spectrum disorders:
 - Impulsive: inability to inhibit a behavior motivated by reward despite negative consequences
 - Compulsive: inability to inhibit a behavior aimed at reducing a negative feeling
- OCRDs often have elements of both (e.g. BFRBs)
- Could also include binge eating disorder, excessive shopping
- OCRDs associated with shared neurocircuitry
 - Frontocortico-striatal-thalamo-cortical circuitry

Neurocircuitry

Dysfunction of frontocortical-striatal-thalamo-cortical (CSTC) circuitry networks

- Circuit associated with difficulties with **impulsivity** and **compulsivity**
- Manifestations: Tics, **OCD**, ADHD, **BFRBs**, etc.
- Habit formation, affect regulation, reward processing, inhibitory control
- Neurotransmitters implicated: Glutamate, GABA, Dopamine, Serotonin



Beddows 2015 - <http://scitechconnect.elsevier.com/neurobiology-basis-of-ocd/>. Modified from original image, credits: Patrick J. Lynch and C. Carl Jaffe.

Body-Focused Repetitive Behaviors (BFRBs)

- Group of problematic, recurrent, repetitive behaviors that target body regions
 - Trichotillomania (TTM), skin picking disorder (SPD), severe nail biting, cheek biting, etc.
- BFRB becomes a disorder when they: recur despite attempts to decrease/stop, cause physical damage, cause significant distress or impairment
- Common in general population, but on a spectrum of severity
 - TTM: 1.14% (95% CI 0.66%, 1.96%); F > M (Thompson et al 2022)
 - Any hair-pulling behavior: 8.84% (95% CI 6.33%, 12.20%)
 - SPD: 3.45% (95% CI 2.55%, 4.65%); F > M (Farhat et al 2023)
 - Any picking behavior: ~67%

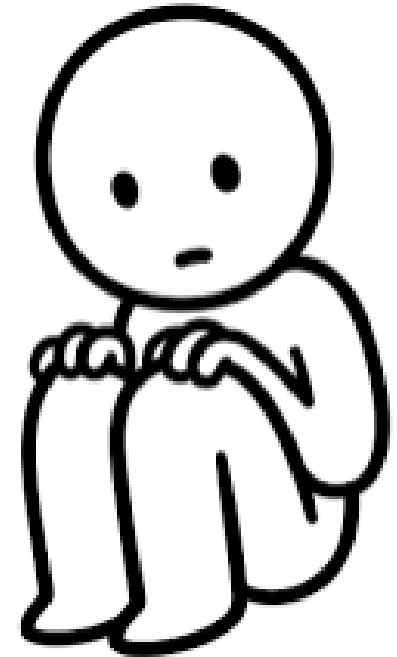


Jones et al (2018) *Clinic Derm*

Woods and Miltenberger 1996

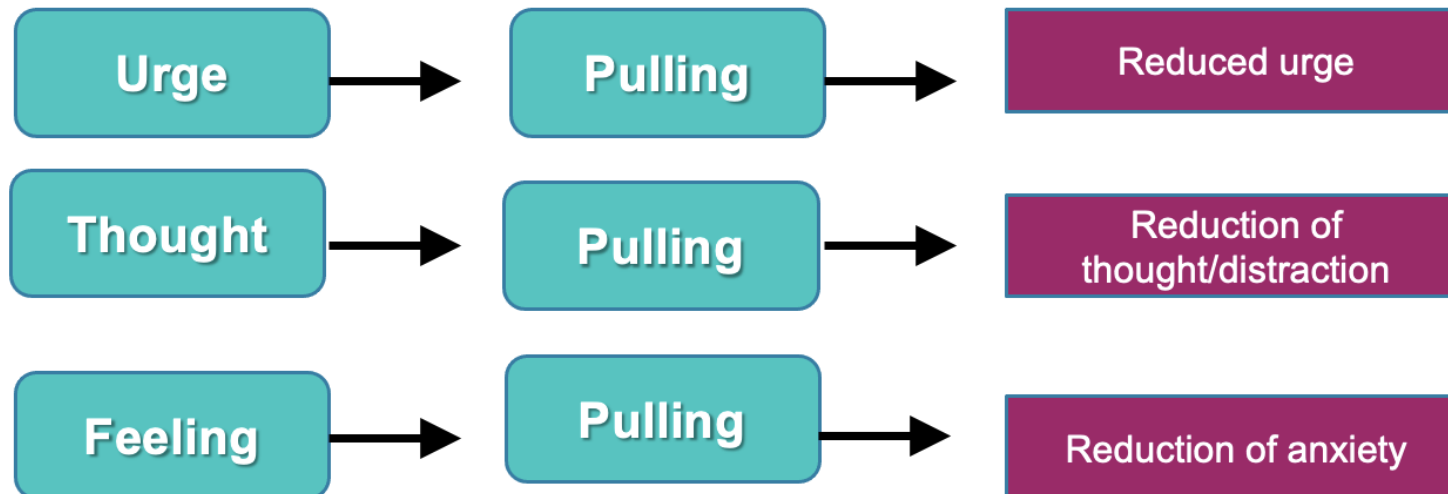
BFRB Consequences and Impact

- Impaired functioning: academic performance, career aspiration, social life, financial status
- Impaired psychology: Shame, embarrassment, low self-esteem, severe avoidance
 - Negative impact on developmental trajectory
- Increased rates of alcohol and substance abuse
- Elevated levels of anxiety and depression
- Physical injury: Irritation, infection, repetitive-use injuries, scarring



Function of BFRBs

Behavior can be reinforced by **avoidance/escape** from unpleasant private experience



Adopted from Dr. Tara Peris AACAP 2023

DSM-5 Trichotillomania (TTM)

- Recurrent pulling out of one's hair, resulting in hair loss
 - Hair loss / bald spot does not need to be visible
- Repeated attempts to decrease or stop hair pulling
- Clinically significant distress or impairment in social, occupational, other functioning
- Not attributable to another medical condition (e.g. dermatological condition) or another mental disorder
 - Commonly experienced, but no longer requires: Tension prior to or Relief following pulling

DSM-5, 2013

TTM Epidemiology



Prevalence: ~1-2% general population

Female > Male

Typical onset in early adolescence

Peak severity transition from adolescent to early adulthood (Farhat et al 2023)

Often multiple pulling sites

Scalp (most), eyelashes/brows, pubic hair

High rates of co-occurring conditions

Up to 80% in adults; at least 40% in adolescents

Waxing and waning course, often persisting/life-long

15% adults experience significant improvement with community treatments... (Bloch 2009)

Types of Pulling

- Automatic: Pulling is outside awareness, may appear trance-like
 - May notice pile of hairs on ground, new bald spot, more common in younger
- Focused: One is aware of the act of pulling; often in response to trigger / urge
 - Characteristic of hair, sensation on scalp, strong emotion
 - Attempt to regulate affect, negative cognitions, stressful environment
 - “Effort to externally regulate internal state of imbalance”
- 80% engage in both types

Roberts et al 2013

Medical Complications

- Irritation
- Infection
- Repetitive-use injury
- Scarring
- **Trichobezoars!**
 - Without surgical intervention, mortality as high as 70%

2022 Pipal et al. Cureus 14(4): e24359.



Frey, A. S., McKee, M., King, R. A., & Martin, A. (2005).

Gonuguntla, V., & Joshi, D. D. (2009).

Trichobezoar data

- Trichotillomania prevalence: ~2%
 - 50-70% have some oral ritualistic behavior after pulling out hair (e.g. rubbing hair across lips, biting root, etc.)
- Trichophagia prevalence: ~15%
 - Studies range 5-30%
- Trichobezoar (if trichophagia) prevalence: ~1%
- Retrospective review (Grant JE and Odlaug BL, 2008)
 - 68 patients with TTM; 20% with trichophagia, 13% additionally with episodic eating
 - Of those with trichophagia who sought tx, only 1 (20%) was asked about eating hair

Grant JE and Odlaug BL, 2008
Tiago et al, 2012
Bouwer and Stein 1998
Frey et al 2005
Gonuguntla & Joshi 2009

Comorbidity in TTM

- Comorbidity is the rule rather than the exception:
 - ~80% adults have additional lifetime psychiatric diagnosis
- TTM + co-occurring depression: Worse quality of life
- TTM + co-occurring anxiety: Worse pulling symptoms
- MDD: ~32-55%
- GAD: ~17-32%
- Anxiety: ~37%
- OCD: ~5-30%
- Substance use disorder: ~8-22%
- Alcohol use disorder: ~3-20%
- Skin picking disorder: ~10-34%
- Eating disorders: ~20%
- Tics and ADHD also elevated
 - Primarily compiled from Houghton et al 2016

Lewin et al 2009

Woods & Houghton 2014

Snorrason et al 2012

Christenson et al 1991

I WEAR CAPS

- Instruments? (e.g., tweezers)
- **Where/When?** (e.g., at home, at school, night?)
- **Evaluation** (physical – bald spots, skin lesions?)
- **Automatic** (versus focused, i.e., unaware versus aware)
- **Rating scales** (e.g., MGH-HPS/SPS-R, MIST/MIDAS)
- **Co-occurring conditions** (e.g. other BFRBs, OCD, tic disorders, ADHD, anxiety, depression)
- **Antecedent cognitions** (e.g., urges, uncomfortable sensations, stress)
- **Post-pulling/picking cognitions and behaviors** (e.g., playing with hair, trichophagia, anxiety)
- **Sites** (e.g., scalp, eyelashes/eyebrows)

ADAPTED FROM DR. LUIS FARHAT – AACAP 2023

Skin Picking Disorder (SPD)

- Persistent skin picking leading to tissue damage, inability to stop, and associated impairment and/or distress
 - DSM-5 criteria mirrors Hair Pulling Disorder
- Prevalence: 1.4-5.4% general population
 - 2/3 of population reports some picking
- Greater prevalence in females



Skin Picking Disorder Continued

- Focused vs. Automatic picking
- Trimodal onset
 - Children <10 (less)
 - Adolescence mean 13-15
 - Adulthood 30-45 (less)
- Can begin with dermatological condition, progress to skin picking disorder
- Similar environmental triggers (stress, boredom, feel/look of skin)
- Picking sites vary over time / Chronic waxing and waning

Comorbidities in Skin Picking Disorder

- OCD: 6-45%
- MDD: 12-48%
- Anxiety: 8-23%
- Body Dysmorphic Disorder: 32%
- Trichotillomania: 5-29.2%
- Substance use: 14-36%
- Over 2/3 individuals with SPD report anxiety and depressive symptoms secondary to picking
- Additional reports of increased rates of: ADHD, borderline personality disorder and bipolar disorder

(Compiled by: Grant et al AJP 2012)

Grant et al 2012
Flessner and Woods 2006
Lochner et al 2002
Snorrason et al 2012

Differential for BFRBs

“Psychiatric”

- **OCD**: Intrusive repetitive thoughts preceding the pulling / picking
- **Body Dysmorphic Disorder**: Fixing a perceived deficit
- **Stereotypies**: Purposeless, younger age of onset
- **Self-injury**: Intent is experiencing the pain and/or decreasing numbness (vs by-product of BFRB)
- **Delusional parasitosis**

“Medical”

- Alopecia
- Tinea Capitis (“ringworm”)
- Psoriasis / Eczema
- Pruritis from medical condition

List of BFRB Measurement Scales (non-exhaustive)

- Trichotillomania:
 - NIMH Trichotillomania Impairment and Severity Scale (TIS, TSS)
 - Massachusetts General Hospital Hair Pulling Scale (MGH-HPS)
 - Psychiatric Institute Trichotillomania Scale (PITS)
- Skin Picking Disorder:
 - Skin Picking Severity Scale (SPS)
 - Skin Picking Impact Scale (SPIS)
- BFRBs:
 - Generic BFRB Scale (GBS-8)
 - Groups all BFRBs and asks about urge frequency, intensity, time spent, control, emotional distress, interference, avoidance, physical damage
 - Repetitive Body Focused Behavior Scale (RBFBS)
 - Parent report on hair pulling/skin picking/nail biting

BFRB Treatments:

- No FDA-approved (or strong evidence-base) for psychopharmacological interventions
- Behavioral Therapy should be first option (habit reversal therapy with stimulus control)
 - Effect size: 1.1
- Quality of life in TTM predicted by depressive symptoms, *not* hair-pulling severity
- SSRIs: Frequently used, but not significantly better than placebo for core BFRB symptoms
 - Consider when co-occurring condition indirectly exacerbating BFRB symptoms or impairing access to BFRB treatment
- Clomipramine: Moderate effectiveness (over placebo) for TTM, but significant side effects, only n=24 subjects, results not maintained
- N-acetyl cysteine (NAC): Superior to placebo in adults (TTM, SPD), replication in youth was negative (TTM)
 - Pooled effect size -0.75 (-1.37- -0.13)
 - Positive results in meta-analyses, but ... Needs deeper review

Houghton et al 2016
McGuire et al 2014
Van Amerigen et al 2010
Rothbart et al 2013
Grant et al 2009
Lee et al 2022

Quick Take - Behavioral Approach

- Habit Reversal and Stimulus Control Principles
 - Habit Reversal involves developing awareness of urges and picking/pulling behavior and competing responses to engage when experiencing urges
 - Stimulus control: reducing environmental and/or behavioral triggers that lead to pulling/picking
 - Consideration of distress tolerance augmentation and DBT strategies
- Stimulus Control considerations:
 - Fidgets: No evidence base, but consider in context of behavioral therapy
 - Personal note: Consider shifting fidgets every few weeks as novelty may be important
 - Therapy Shoppe: <https://www.therapyshoppe.com>
 - Fake nails / nails done – anecdotally helpful
 - HabitAware (electronic awareness enhancement device) – studies combined with HRT in progress

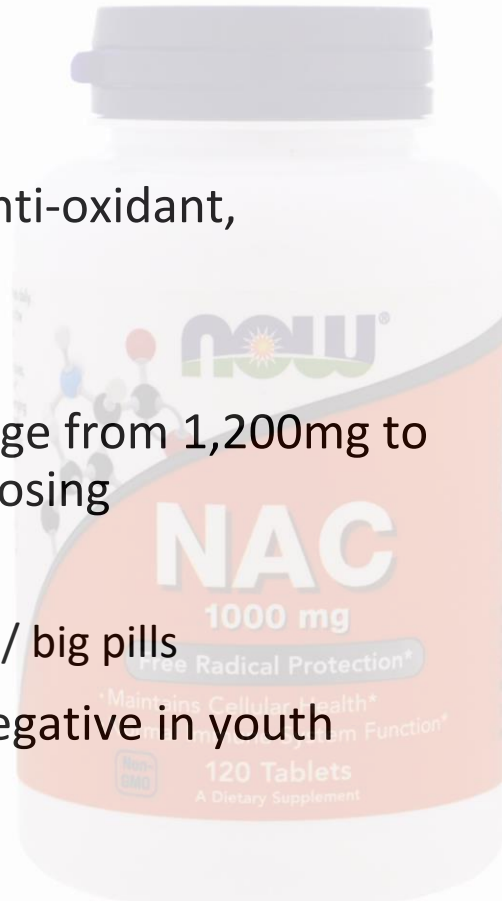
Serotonin Reuptake Inhibitors

- Often prescribed, not particularly effective
- Meta-analyses:
 - TTM: Minimal to no efficacy for SSRIs (Bloch et al 2007, McGuire et al 2014, Slikboer et al 2015)
 - SPD: No efficacy (Gelinas et al 2013, Schumer et al 2016)
- Randomized controlled trials:
 - TTM: Negative
 - SPD: Mixed (fluoxetine)
- Open-label/uncontrolled trials:
 - TTM: Some positive
 - SPD: Some positive

N-Acetyl Cysteine and Memantine – Hope or Hype..?

“N-A-C” or “NAC”

- Amino acid precursor – anti-oxidant, glutamatergic modulator
- Limited side effects: GI sx
- Doses: ~2,400mg, but range from 1,200mg to 3,600mg split into b.i.d. dosing
- Difficulties:
 - Bad taste / sulfur smell / big pills
- Positive trials in adults, negative in youth



Memantine

- Trial by Grant et al (2023) in 100 adults with BFRBs
 - Memantine 10mg daily x2w, then 20mg daily x6w
- Memantine group 56% severity reduction and 60.5% with CGI-1,2 scores
 - Vs control with 9% reduction and 8.3% CGI-1,2
- Difference observed by week 4
- However:
 - BFRBs were combined, low rates of comorbidities
 - Atypically low placebo response rate

NAC Follow-up Study

- Follow up (on youth) 3 years post (NAC) treatment (n=30 from 39)
 - No significant changes in overall hair-pulling
 - Increased rates of anxiety and depression at follow-up
 - Increased pulling severity associated with increased depressive and anxiety symptoms
 - Less automatic pulling, increased focused pulling
 - Worse prognosis when: older age at baseline, more focused pulling
 - None were still taking NAC



Schumer et al 2015

BFRB Treatment Continued:

- Additional agents:
 - **Naltrexone**: trended positive, more research needed
 - Positive open-label in youth, negative RCT in adults (50-150mg)
 - Subgroup benefit in those with substance use disorder family history
 - **Olanzapine**: superior to placebo in TTM, poor side effect profile
 - **Topiramate**: positive open-label in adults in TTM (50-250mg), no RCTs
 - **Other antipsychotics**: positive open-labels, no Db RCTs
 - Haloperidol, risperidone, aripiprazole
 - Side effects: Weight gain, extrapyramidal symptoms, sedation, metabolic symptoms
 - **Other trials**: milk thistle, inositol, dronabinol, silymarin
- Challenges: Small sample sizes, lacks repetition, lack of long-term data, high placebo rates
- Current trials pending: Valbenazine and Cannabidiol

Pharmacotherapy for TTM (Cochrane 2021)

- Twelve RCTs included
 - Ten in adults (286 participants), one in child/adolescent (39 participants), one in adults/adolescents (22 participants)
 - Many open-label, case series, pilot studies - not included in formal analysis
- General Findings:
 - Possibly positive, all low certainty of evidence: **Antipsychotics** (based on one trial of olanzapine), **glutamate modulators** (based on one trial of NAC), **tricyclic antidepressants/clomipramine** (based on one trial of clomipramine and one comparing clomipramine to desipramine)
 - **Naltrexone** (based on two studies), likely little to no difference, but very uncertain evidence
 - Negative for: **inositol**, **silymarin** (anti-oxidant)

General BFRB Guidance

(Primarily for TTM and SPD but can apply to any BFRB)

- Evaluate the severity of the condition (MGH scales) *and* the impact of symptoms psychologically, emotionally, medically (e.g. hair ingestion?)
- Assess for commonly occurring co-morbidities
 - OCRDs, alcohol/substance use, depression, anxiety, ADHD, eating d/o, tics
- Refer to behavioral therapy if available
- Provide psychoeducation on current state of pharmacological options
 - Limitations, but potential for targeting co-occurring conditions
 - Risks/benefits/side effects

Lessons from Dermatology

- Wound healing: Moisture is good! Ointments helpful
 - Vaseline jelly or hydrocolloid dressing (DuoDerm, etc.)
 - Pimple patches (hydrocolloid dressings) – discreet or decorative!
 - Infection prevention: mupirocin ointment, Cln wash
 - Dilute bleach bath (like a chlorinated swimming pool!)
 - [https://nationaleczema.org/wp-content/uploads/2018/03/FactSheet BleachBath FINAL.pdf](https://nationaleczema.org/wp-content/uploads/2018/03/FactSheet_BleachBath_FINAL.pdf)
 - Physical barriers: compression sleeves, ACE wrap, "unna boot"
- Itchiness, pain, etc. is common in wound healing!
 - Products with pramoxine lotion (CeraVe Itch, Sarna Sensitive)
 - Topical Rx with ketamine, amitriptyline, lidocaine cream



From Dr. Meltzer – discussion and slides 2023



Body Dysmorphic Disorder

- Preoccupation with perceived defects in physical appearance that are slight/not observable to others
- Engaged in repetitive behaviors/mental acts in response to physical concerns
 - E.g., mirror checking, reassurance seeking, grooming rituals, manipulating area
 - (Avoidance!)
- Clinically significant distress/impairment

Ruck et al 2024

BDD Background

- Prevalence ~2%; onset typically in teen years; F>M in teens, more even gender distribution in adults
 - All: Skin, hair, nose
 - Females: Hips, breasts, legs, excessive hair
 - Males: Muscles, genitals, thinning hair
- Chronic/persistent typically
- Impairment across multiple domains
 - Poor QoL, occupational/school impairment, isolation/social withdrawal
- Commonly associated with co-occurring conditions
 - e.g. other OCD, social anxiety, depression, eating disorders, alcohol/cannabis use disorder

Dong et al (2019) *Expert Opinion on Pharm*
Pellegrini et al (2020) *J Affect Disord*.
Jassi et al (2023) *Psych Clinics of N Amer*

BDD Continued

- Poor insight more common (compared to OCD), though insight level can be dynamic; doesn't necessarily impact treatment
- Common to seek cosmetic procedures rather than mental health treatment
 - ~9% of those presenting to cosmetic surgery clinics, 13% to dermatology clinics
 - Common to not disclose symptoms unless directly asked
- Risk assessment is **critical**:
 - 8 in 10 report suicidal ideation; 1 in 4 report suicide attempt; 1 in 2 report self-harm
 - Need to assess for 'DIY' procedures
- Scales:
 - Body Dysmorphic Disorder Y-BOCS Scale (BDD-YBOCS)
 - Body Dysmorphic Disorder Symptom Scale (BDD-SS)

Dong et al (2019) *Expert Opinion on Pharm*
Pellegrini et al (2020) *J Affect Disord*.
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BDD Psycho pharmacology

- Many medications trials – primarily open-label, case studies, reviews
 - Serotonergic: fluoxetine, fluvoxamine, citalopram, escitalopram, clomipramine
 - Also: antipsychotic augmenters (aripiprazole, olanzapine, risperidone),
 - Oxytocin (RCT), levetiracetam (OL), buspirone (OL), glycine (CS), psilocybin! (OL)
- 3 RCTs
 - Fluoxetine vs placebo; clomipramine vs desipramine; escitalopram vs placebo withdrawal
 - Associated with response rates of 53-70%
 - Need to remain on medication for extended periods to prevent relapse
- Pharmacologic trials: efficacy independent from insight (Ipser et al 2009)

Jassi et al (2023) Psych Clinics of N Amer

BDD Psychopharmacology

- Treatment: combination of CBT and pharmacology when able
- SSRIs are preferred treatment (fluoxetine has orphan designation in children/adolescents)
 - Improved core BDD symptoms, suicidality, quality of life
 - Improvement in depression symptoms
 - Discontinuation associated with relapse
- Similar algorithm to OCD treatment:
 - SSRIs x2, consider clomipramine, consider augmentation with antipsychotic
- Expert clinical opinions
 - Relatively high doses of SSRIs likely required
 - Augmentation with atypical antipsychotics may be beneficial (Rashid and Fineberg 2015)
- Limited recent pharmacological studies/trials

Castle et al, 2021, *Int Clin Psychopharmacol* ICPCS
Hong et al, 2019 *Current Neuropharmacology*
Loewen et al, 2026 *Curr Psychiatry Rep*

Hoarding Disorder

- Persistent difficulty discarding/parting with items regardless of actual value
 - Perceived need to save items / distress associated with discarding
- Results in: accumulation of possessions that clutter / congest active living areas and compromise intended use
- Causes clinically significant distress or impairment
 - Specifier: With excessive acquisition
- Prevalence: 2.5%
- Differs from OCD in often more 'ego-syntonic,' comorbidities profile
- Associated with ADHD/impaired executive function (inattention/impulsivity)
- Scales:
 - Hoarding Rating Scale – Interview (HRS-I); UCLA Hoarding Severity Scale (UHSS)

Behavioral Treatment

- CBT is primary and evidence-based approach (CBT-HD):
 - Skills training: Putting items into categories and planning ahead for wanted objects
 - Cognitive restructuring: Identifying and challenging beliefs that maintain hoarding
 - Exposure to discarding and non-acquiring: Discarding hierarchy and non-acquisition trips
 - “Clinical results have been modest” (Tolin et al 2025)
- Harm reduction model:
 - Goal not to eliminate hoarding behavior itself, but to decrease/mitigate risks associated with hoarding

Rodgers et al 2021

Bratiliotis et al 2021

Pharmacological Treatment

- Medication: No FDA-approved medication
 - Less responsive to SSRIs than OCD without hoarding
 - Studies were mostly pre-DSM-5 (hoarding still part of OCD)
 - No studies were placebo-controlled
- Meta-analysis (2015) of 7 open-label studies/cases and naltrexone RCT
 - 37-76% responded to pharmacotherapy (ER: 0.58, $p=0.09$)
 - Positive open-labels: Paroxetine, venlafaxine, sertraline, methylphenidate
 - Negative augmentation: Quetiapine, minocycline, naltrexone
 - Venlafaxine XR (Saxena and Sumner 2014) $n = 24$, open-label; primary DSM-5 hoarding (70% responders)
- Atomoxetine open-label 2016
 - 11 patients with hoarding and without ADHD diagnosis
 - UCLA Hoarding severity scale decreased by 41.3% ($p<0.001$)
 - Inattentive and impulsivity symptoms showed significant reduction
- No RCT specific to hoarding disorder since separation from OCD in DSM-5

Brakoulias et al 2015
Grassi et al 2016

Hoarding in ADHD Study

- Grassi et al (2025)
 - Naturalistic, open-label, n=60, with primary ADHD
 - Gave methylphenidate x1y and assessed hoarding symptoms (Saving Inventory-Revised)
 - Hoarding symptoms statistically significantly improved
 - 71.6% improved; 5% unchanged; 23.4% slightly worsened
 - Excessive acquisition and clutter subscales IMPROVED
 - Difficulty discarding subscale did NOT IMPROVE
 - Likely mediated by ADHD improvement vs direct anti-hoarding

Treatment Tips for Hoarding



Forced interventions
not recommended



Team approach

- Family
- Local hoarding task forces
- Tenancy Prevention Program
- Groups- MassHousing

Steketee G and Frost R. *Treatment for Hoarding Disorder : Therapist Guide*. Second Edition. 2013; Hoarding: Buried Alive, Season 3. [Photo]. (n.d.). From: <https://itunes.apple.com/us/tv-season/hoarding-buried-alive-season/id446202854>

Alternative Treatments?

- **Di Ponzio et al “rTMS ... OCRD” Front Psych 2023**
 - Enrolled patients with TTM, HD, SPD
 - Used rTMS over left dorsolateral prefrontal cortex (DLPFC) at 15Hz
 - Targeted reward system
 - Reduction in symptom severity at end of treatment in all three groups ($p < 0.0001$)
 - Maintained in younger patients (<30 years) at 1-month follow-up

In Summary:

- OCRDs (BDD, BFRBs, Hoarding Disorder) are phenomenologically and genetically related to, yet distinct from, OCD
 - One latent factor loads on all OCRDs, another on only BFRBs
- Characterized by unwanted, repetitive, obsessive thoughts and/or compulsive behaviors
 - Often elements of compulsivity *and* impulsivity
- Underdiagnosed, understudied, undertreated
- No FDA-approved medication for any non-OCD OCRDs
 - Orphan designation of fluoxetine for child/adolescent BDD
- Behavioral therapies are first-line, have greatest evidence
- Can be a role for medication, but...
 - Need more formal studies, need to be thoughtful about the target