

Evidence Based Psychotherapy and Medication Management for Skin Picking Disorder

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DISCLOSURES

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The MHTTC Network uses affirming, respectful and recovery-oriented language in all activities. That language is:

STRENGTHS-BASED
AND HOPEFUL

INCLUSIVE AND
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Adapted from: https://mhcc.org.au/wp-content/uploads/2019/08/Recovery-Oriented-Language-Guide_2019ed_v1_20190809-Web.pdf



Mid-America Mental Health Technology Transfer Center (MHTTC)

- Funded by the federal Substance Abuse and Mental Health Services Administration (Grant number: H79SM081769).
- Awarded to UNMC's Behavioral Health Education Center of Nebraska (BHECN).
- Serves to align mental health services across Missouri, Iowa, Nebraska, and Kansas with evidence-based practice.

Announcements

- This webinar was recorded.

<https://mhttcnetwork.org/centers/mid-america-mhttc/tele-behavioral-health-consultation-tbhc-primary-care-webinar-series>

Nebraska Mental Health Access Grant

- 5-year, \$2.2 million HRSA grant through maternal and child health bureau
- Designed to improve timely access to behavioral healthcare for children in rural Nebraska
- The main goal is to provide primary care providers access to behavioral health supports



Goals

- Enhance early screening of behavioral health disorders
- Conduct a clinical demonstration project in a network of providers to expand and diversify integrated behavioral health provision in PC pediatric and family medicine practices, with a focus upon rural communities
- Evaluate the overall effectiveness of increasing access to PCP's to behavioral health consultation

<https://www.unmc.edu/mmi/services/psychology/teleproviderconsult.html?msclkid=77c12956b5f311ec8c21922c759e3b30>



Tele-Behavioral Health Consultation (TBHC)

- Behavioral health providers or case managers on-site at primary care clinics
- Behavioral health/care managers determine need for consultation with psychiatry
- Consultant consults with PCP (audio or audio-visual) on the same day
 - Child Psychiatry
 - Developmental Medicine
 - Psychiatric Nurse Practitioner



Behavioral Health Consultation for Primary Care Providers

The UNMC Tele-Behavioral Health Consultation Team (TBHC) provides psychiatry support to primary care providers in Nebraska who are managing pediatric patients with behavioral health problems. Providers are available to offer guidance on diagnosis, medications, and psychotherapy interventions to assist primary care providers in better managing patients in their practices. Support is available through phone and synchronous audio/video teleconference consultations to referring primary care providers.

How Does it Work?

1. The participating provider or representative initiates a request to Dani Porter at (402) 559-3838 or through the website at unmc.edu/mmi/departments/psychology/psych-patientcare/teleproviderconsult.html
2. A member of the TBHC team will contact the provider within the same business day to offer guidance.
3. The TBHC is not an emergency service. Emergencies will be routed to local emergency services.
4. The UNMC TBHC team does not prescribe medication. They provide support for prescribers.

Team Members



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Primary Care Providers (PCPs)

- PCPs can request a consultation three ways:

1) Visit our website:

<https://www.unmc.edu/mmi/services/psychology/teleproviderconsult.html>

2) QR Code



3) Call 402-559-3838



Outline:

- Skin-Picking (Excoriation) Disorder (SPD):
 - Overview
 - Epidemiology
 - Comorbidities
- SPD pathophysiology
- Treatment
 - Pharm
 - Behavioral
 - Meta-analyses
- Final thoughts

Skin-Picking Disorder (SPD): Overview

A relatively new diagnosis now fully characterized in the DSM-5 by the repetitive and compulsive scratching or picking of the skin, which causes tissue damage and distress or impairment.

It is currently classified under the category of “obsessive and compulsive related disorders.” Previously, it had clinically been characterized under realms of psychiatric illness spanning impulse control, obsessive-compulsive, or stereotypic movement disorders.

DSM-5 Obsessive-Compulsive & Related Disorders

- Obsessive-Compulsive Disorder
- Body Dysmorphic Disorder
- Hoarding Disorder
- **Trichotillomania (Hair-Pulling) Disorder**
- **Excoriation (Skin-Picking) Disorder**
- Substance/Medication-Induced Obsessive-Compulsive & Related Disorder
- Obsessive-Compulsive & Related Disorder due to Another Medical Condition
- Other Specified Obsessive-Compulsive & Related Disorder
- Unspecified Obsessive-Compulsive & Related Disorder



Skin-Picking Disorder (SPD): Overview

- A. Recurrent skin picking resulting in skin lesions.
- B. Repeated attempts to decrease or stop skin picking.
- C. The skin picking causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- D. The skin picking is not attributable to the physiological effects of a substance (e.g., cocaine) or another medical condition (e.g., scabies).

- E. The skin picking is not better explained by symptoms of another mental disorder (e.g., delusions or tactile hallucinations in a psychotic disorder, attempts to improve a perceived defect or flaw in appearance in body dysmorphic disorder, stereotypies in stereotypic movement disorder, or intention to harm oneself in nonsuicidal self-injury).

TABLE 1. Body-focused repetitive behaviors

<ul style="list-style-type: none"> ● Knuckle pads: Pads or calluses resulting from sucking or biting the back of the fingers, mainly the thumb.
<ul style="list-style-type: none"> ● Artifacts keratosis: Calluses, usually located on the fingers or hands, produced by repeatedly rubbing, picking, or biting these areas.
<ul style="list-style-type: none"> ● Morsicatio buccarum (cheek biting): Consists of the habit of biting or sucking the oral mucosa at the level of the dental occlusion lines, resulting in the formation of leukokeratotic folds that alternate with irregular superficial erosions.
<ul style="list-style-type: none"> ● Excoriation disorder: Need or urgency for scratching, picking, touching, rubbing, scrubbing, rubbing, squeezing, biting, or digging the skin, until generating tissue damage.
<ul style="list-style-type: none"> ● Onychophagia: Act of biting and swallowing nails, mainly from the hands' nails.
<ul style="list-style-type: none"> ● Onychotillomania: Impulsive and infrequent behavior, the patient consistently tears his own nails with or without subsequent ingestion of them.
<ul style="list-style-type: none"> ● Tic onychodystrophy: A form of nail dystrophy caused by repetitive rubbing or picking of the proximal nail folds, causing partial growth of the nail at the level of the matrix, which then develops with transverse ridges and depressions on its surface.
<ul style="list-style-type: none"> ● Finger or thumb sucking: Historically recognized as a common behavior (even in utero), with a prevalence of over 95% in infants, and diverse interpretations (a habit to calm hunger, an autoerotic behavior, etc.). Its persistence over time has been considered regressive, stereotyped, or part of the obsessive-compulsive spectrum.
<ul style="list-style-type: none"> ● Impulsive cheilitis: Manipulation of lip corners by various means, producing a cheilitis or perpetuating an existing one.
<ul style="list-style-type: none"> ● Rhinotillexomania: Term introduced to name the practice of finger-picking the nose, from minutes to hours a day.
<ul style="list-style-type: none"> ● Trichotillomania: Characterized as an obsessive-compulsive disorder in which individuals fail to resist urges to pull out their own hair, and is associated with significant functional impairment and psychiatric comorbidity across the developmental spectrum.

(Torales 2020)



Skin-Picking Disorder (SPD): Epidemiology

Prevalence of compulsive skin picking has been estimated between 5 and 13% in the general adult population

- Estimated lifetime prevalence of **1.4%** when distress or impairment was added as a diagnostic criterion to classify as SPD under DSM-5 (Grant 2012)

Children: less available

- closest estimates ranging between **10 and 40%** of picking behavior reported on the Child Behavior Checklist (CBCL) (McGuire 2012)

Skin-Picking Disorder (SPD): Comorbidities

SPD has been well characterized as a behavioral manifestation associated with developmental and genetic disorders, in particular Prader-Willi syndrome.

Youth with OCD, impulse control disorders as a whole were relatively uncommon, with the notable exception of skin-picking behavior (12.8%) (Grant 2009)

In adults rates of co-occurring OCD are significantly higher in individuals with skin picking disorder (6-52%)

Often misdiagnosed as either OCD or body dysmorphic disorder, especially since the motor symptoms of SPD have similar clinical characteristics to the repetitive compulsive rituals in OCD.

Indeed, many similarities including motor symptoms of SPD similar to compulsive rituals of OCD. Raises possibility of common neurobiological pathway...

TABLE 4. Differential diagnoses of ED

Diagnosis	Characteristics
Delusional infestation	In this disorder, the patient presents delusional ideas that his body, mainly his/her skin, is infested with small pathogens, alive or not, in the absence of any medical evidence. The skin picking responds to the pruritus produced by this "infestation."
Dermatitis artefacta	This disease is characterized by self-inflicted skin lesions, performed in order to obtain a secondary gain such as arousing sympathy or avoiding some type of responsibility. An important diagnostic difference is that the patient with dermatitis artefacta does not recognize the self-inflicted nature of the lesions; instead, the patient with ED acknowledges the authorship of the lesions and requests help.
Body dysmorphic disorder	Patients with body dysmorphic disorder can remove, with nails or other objects, fragments of skin, regardless of the consequence being a major injury, in order to correct a real or imagined "body-defect."
Obsessive-compulsive disorder	Patients with obsessive-compulsive disorder experience more feelings of guilt, while patients with ED feel indifference or pleasure. After the action is over, both types of patients experience guilt, but patients with ED show a greater intensity in this feeling.
Substance-related disorders	Skin picking can also be induced by the consumption of certain substances, such as cocaine. However, if repetitive behavior is clinically significant, the diagnosis of obsessive-compulsive substance-related disorder should be considered.

(Torales 2020)



Skin-Picking Disorder (SPD): Pathophysiology

An underlying neurobiological pathway between OCD and SPD has been suggested, more recent neurobiological data demonstrate a distinction between individuals with SPD and OCD, with SPD being more highly correlated to poor motor inhibitory control processes (as opposed to problems with cognitive flexibility in OCD).

A recently published study evaluating the correlation between excoriation and motor impulsiveness showed that motor impulsivity scores (via BIS-11) could be a marker of disease severity for SPD (Oliveira 2015).

- Other studies suggest SPD associated with significantly impaired stop-signal reaction times, but intact cognitive flexibility compared to healthy subjects. As opposed to Trichotillomania which occupied intermediate positions in terms of stop-signal reaction times.
- Some evidence to suggest significant motor-inhibitory control problems: distinct from OCD, BDD, Trichotillomania.

Skin-Picking Disorder (SPD): Pathophysiology

Familial component (Grant 2012), and one mouse model study found that mutation in the *Hoxb8* gene produced excessive grooming behavior. *Hoxb8* is expressed in the orbital cortex, the anterior cingulate, the striatum, and the limbic system.

TABLE 3. Neural circuits in ED

Nucleus accumbens and ventral striatum	It has been shown that the nucleus accumbens participates in the reward processing and that the ventral part of the striatum is involved in various repetitive behaviors seen in psychiatric disorders, such as pathological gambling and substance use disorders.
Prefrontal cortex	The prefrontal cortex and descending neurons of various subcortical structures have a key role in executive control. Specifically, the frontal-striatal circuits are apparently involved in the control of executive mechanisms: these circuits are altered in both impulsive disorders (a decrease of prefrontal control) and compulsive disorders (an increase in the activity of fronto-striatal circuit).
Cortico-striatal circuits	It has been reported that chronic stress leads to opposite structural changes in the association and sensorimotor cortico-striatal circuits, with atrophy of the medial prefrontal cortex and the associative striatum, but with sensorimotor striated hypertrophy. In synthesis, the striated cell structure would be altered and repetitive and stereotyped behaviors could be generated during a stressful condition.
Cerebellum	The cerebellum also plays a role in various control processes (eg, motor processes, cognitive processes).

SPD Psychopharm Treatment

Largely focused on behavioral interventions, with cognitive behavioral and habit reversal therapy being consistently defined as beneficial across trials in a recent meta-analysis (Schumer 2016).

Data supporting pharmacological interventions for SPD are mixed at best.

- Fluoxetine study 1997: among 17 participants in open-label trial (6 Fluoxetine, 11 Placebo), fluoxetine group improved significantly more at mean dose of 55mg after 10 weeks.
- Fluoxetine study 2001: 15 patients received 6 weeks of open-label fluoxetine followed by 6-weeks double-blind discontinuation phase. 8 went on to this later phase phase, 4 pts receiving placebo returned to baseline levels of picking.
- Citalopram: 2008, 45 pts with SPD treated for 4 weeks. Yale-Brown OCD scale modified for skin picking decreased for citalopram group more significantly than placebo.

SPD: Behavioral treatment

Mainstay has been Cognitive Behavioral Therapy (CBT) and Habit Reversal Therapy (HRT).

3 stages:

- Awareness of skin-picking behaviors + psychoeducation
- Competing Response Training
- Relapse prevention

Habit Reversal Therapy (Woods)

Behavioral intervention works regardless of cause of the repetitive behavior's origin (organic, behavioral, etc.)

Begins with a thorough assessment of the behavior

- Identify the behavior(s)
- Operationally define
- Determine comorbidity
- Assess for severity and rank order behaviors by distress

Key question: What is the function of the behavior?

- Relief from a physical sensation?
- Avoidance of an emotion?
- Attention?

ABC's of SPB

Antecedent

Awareness Training

Is the child aware of when they are picking?

Do they know what exactly it looks like when they pick?

The Awareness Game



Competing Response Training

Identify an incompatible behavior- child physically cannot engage in picking while doing this

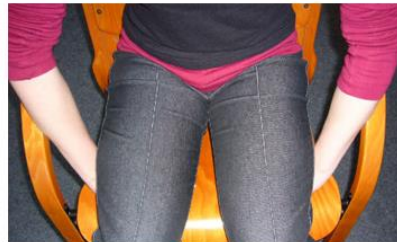
- Finger tapping
- Sitting on hands
- Utilizing fidgets

Modeling and practice in session

A



B



C



The Role of Social Support

Caregivers help build awareness and practice skills

Once child has practiced with the therapist, have child teach their support person

They are not the police, just there to prompt/ remind/ help practice

Data Collection Is Key

Track instances of picking from beginning

Client brings to each session, and data is also recorded during session

Monitor progress to know if competing response is effective, child is practicing, etc.

Tic Tracking Form

Definition of my tic:

When I will track my tic: _____

My warning signs: _____

Date	# of Tics

H
T



Other Components of Behavioral Interventions

Relaxation training

- Progressive Muscle Relaxation
- Breathing exercises

Cognitive Strategies

- Challenging negative or anxious thoughts

External Rewards for Treatment Engagement

- Improve motivation or engagement
- Especially useful with younger children

SPD: Treatment Meta-analyses

Prior systematic review demonstrated improvement from both pharmacological and behavioral interventions, and both treatment types were comparable for SPD (Gelinas 2013)

- HOWEVER... this review had a number of limitation and peculiarities including not comparing active interventions with inactive controls, including case-reports (prone to publication bias), and did not use qualitative OR quantitative tools to assess likelihood of bias.

Schumer et al in 2016 conducted another Meta analysis that addressed methodological shortcomings, and specifically looked at two main analyses:

- Endpoint scores between active and control conditions compared with RCTs
- Change scores for improvement preintervention and postintervention compared for uncontrolled studies.
- Standardized mean differences favored more than weighted differences.

SPD Treatment: Schumer et al, 2016

TABLE 1. Characteristics of Included Studies

Study	Design	Intervention	Comparison	n	Duration	Primary Outcome Measure
Behavioral therapy						
Teng et al 2006 ¹⁶	RCT	HRT	Waitlist	19	3 sessions	Self-monitoring cards
Schuck et al 2011 ¹⁷	RCT	CBT	Waitlist	34	4 sessions	SPS
Moritz et al 2012 ¹³	RCT	HRT (self-help)	DC	70	4 wk	M-SPS
Flessner 2007 ²³	Uncontrolled	CBT (self-help)	NA	151	11.7 wk	SPS
SSRIs						
Simeon et al 1997 ¹⁸	RCT	Fluoxetine	Placebo	17	10 wk	SPTS
Arbabi et al 2008 ¹⁹	RCT	Citalopram	Placebo	45	4 wk	VAS
Arnold et al 1999 ¹²	Uncontrolled	Fluvoxamine	NONE	14	12 wk	NE-YBOCS
Bloch et al 2001 ²⁰	Uncontrolled	Fluoxetine	NONE	15	6 wk	NE-YBOCS
Keuthen et al 2007 ²⁴	Uncontrolled	Escitalopram	NONE	29	18 wk	MGH-SPS
Lamotrigine						
Grant et al 2010 ²¹	RCT	Lamotrigine	Placebo	32	12 wk	NE-YBOCS
Grant et al 2007 ²²	Uncontrolled	Lamotrigine	NONE	24	12 wk	NE-YBOCS

DC indicates decoupling; M-SPS, modified Skin Picking Scale; SPS, Skin Picking Scale; SPTS, Skin Picking Treatment Scale; VAS, Visual Analog Scale.

SPD Treatment: Schumer et al, 2016

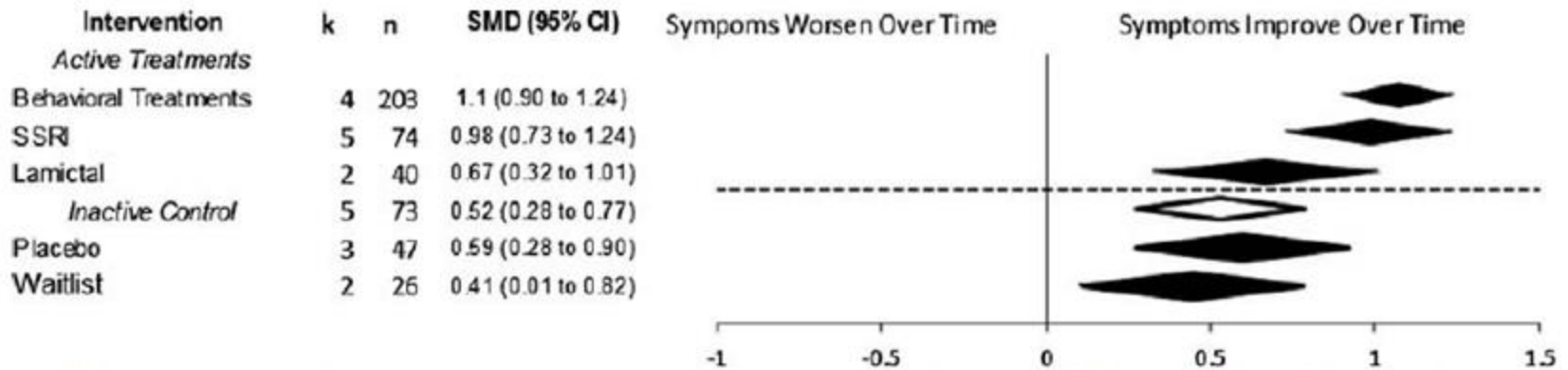


FIGURE 3. Improvement of SPD symptoms over time in response to treatments. All interventions (behavioral therapy, SSRIs, lamotrigine) and inactive control conditions (waitlist and placebo) demonstrated significant improvement over time for SPD.

SPD Treatment: Schumer et al, 2016

Demonstrated a significant benefit of behavioral treatments (both CBT and HRT) compared with control conditions.

Pharmacologically: mixed at best, they found neither SSRI nor lamotrigine demonstrated significant benefit *when compared to placebo*.

Why?

- Temporal improvement across *all* treatments, including INACTIVE comparison conditions (placebo or waitlist), may be due in part to the nature of SPD to fluctuate over time.
- Uncontrolled trials, pts with SPD showed improvement across ALL interventions reported
- But even Randomized-controlled trials showed significant improvement over time in inactive comparison group.

SPD Psychopharm treatment: NAC and summary

N-acetylcysteine (NAC): RCT, double-blind in adults (Grant 2016)

(dosing range 1,200–3,000 mg/d) over 12 weeks found that NAC significantly reduced symptoms of ED.

Review in 2016 (Bonnot et al) of psychotropic in the treatment of behavioral/excoriation disturbances in Prader-Willi:

- Looked at antipsychotics, SSRIs, Naltrexone, Topiramate, Fenfluramine/rimonabant, stimulants, and N-acetyl cysteine (NAC).

Concluded that, for now given the relatively poor literature base:

- Topiramate can help with self-injury and impulsive/aggressive behaviors
- Risperidone for psychotic symptoms
- SSRIs only with comorbid OCD/depression
- NAC for skin-picking in isolation

N-Acetylcysteine (NAC)

- Glutamate modulator
- Starting dose 600mg BID, increasing by 600mg BID q4 weeks based on efficacy and tolerability. Max dose 3,600mg daily.

N-acetylcysteine (Acetadote, Cys-5, Mucomyst, or NAC)

This medication is used to treat the following psychiatric conditions

Obsessive-compulsive disorder
Trichotillomania
Skin-picking disorder Autism spectrum disorder
Schizophrenia
Bipolar disorder

Other uses of N-acetylcysteine

Prevent liver damage following overdose
with acetaminophen (Tylenol) Chronic disease of the respiratory system

What to expect from N-acetylcysteine

Oxidative stress (stress on the body caused by free radicals that have not been neutralized by anti-oxidants) is thought to occur in patients with obsessive-compulsive disorder, schizophrenia, or bipolar disorder. N-acetylcysteine can help reduce oxidative stress. N-acetylcysteine also regulates the level of glutamate, a brain chemical that is thought to be high in patients with impulse-control disturbances and irritability. By lowering glutamate levels, patients may see symptomatic improvement. It typically takes a week or more to see the benefits of this medication. N-acetylcysteine is typically dosed twice daily.

Side effects

As with any medication, N-acetylcysteine may cause side effects. Most of these are minor and improve or disappear after a short time on the medicine. If side effects are especially troubling or interfere with your ability to function, notify your prescriber.

Common Side Effects

Upset stomach
Flatulence (gas)
Rash
Itching
Increased heart rate

Drowsiness Uncommon side effects

*Shortness of breath

*Hives, itching, swelling indicating an allergic reaction

– *Notify your prescriber promptly if this side effect occurs.

Consequences of long-term use

– None known

Special Considerations

- -- Do not take N-acetylcysteine at the same time as antibiotics. If you have to, take antibiotics at least two hours after taking N-acetylcysteine.
 - -- The color of this drug may turn from colorless to a slight pink or purple. The color change does not affect the quality of the drug.
 - -- There may be a bad odor associated with this medicine. Different manufacturers maybe better than others at masking this odor.
 - -- Discuss the risks and benefits of taking this medication if you have a history of asthma.
- Notify your prescriber if you are breastfeeding, pregnant, or plan to become pregnant.

Final thoughts

SPD is a distinct disorder, rightfully characterized as such in DSM-5.

However, be aware it's more associated with poor motor-inhibitory control than perhaps other "obsessive-compulsive spectrum" disorders it's been characterized with.

- Perhaps with distinct neurobiological mechanisms mediated more by poor motor-inhibitory (impulse) control processes than OCD or Trichotillomania.

New review of evidence suggests mixed or perhaps no benefit of SPD symptoms with pharmacotherapy compared to placebo, but note that all treatment conditions tend to improve, especially in the short-term.

- Importance of future research to use only controlled trials.
- Exception being perhaps NAC, especially with developmentally delayed population

Some evidence that SSRIs can worsen SPD

- Perhaps mediated through behavioral disinhibition/activation mechanisms?

Behavioral Interventions are effective and efficient

- First line
- Does require buy in and adherence from patient, and skill from the therapist

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