CHAPTER

11

Exposure with response prevention for obsessive-compulsive disorder in children and adolescents

Monica S. Wu[1], *Hardian Thamrin*[2] *and Jocelyn Pérez*[3]

[1]UCLA Semel Institute for Neuroscience and Human Behavior, Los Angeles, CA, United States, [2]Department of Psychology, Arizona State University, AZ, United States, [3]Children's Hospital Los Angeles, CA, United States

Exposure therapy for obsessive-compulsive disorder in children and adolescents

Obsessive-compulsive disorder (OCD) is a psychiatric disorder affecting approximately 1%–2% of children and adolescents (Geller, 2006; Zohar, 1999). It is characterized by the presence of obsessions (intrusive and distressing thoughts, sounds, images, or impulses) and/or compulsions (repetitive rituals, either mental or overt behaviors; American Psychiatric Association, 2013). These symptoms can manifest in myriad ways, given the heterogeneous presentations of childhood OCD (Stewart, Rosario, et al., 2008; Stewart et al., 2007). For instance, one child may possess contamination-related fears that cause them to compulsively wash their hands after touching public items (e.g., doorknobs, countertops). Meanwhile, another child may present with more symmetry-related concerns, needing everything to be evened up

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(e.g., socks must be at equal height, spoon and fork must be placed precisely on each side of the plate). As such, it is important to recognize that symptoms may present in a multitude of ways in youth with OCD.

Pediatric OCD has been associated with significant functional impairment across a variety of life domains (Storch, Larson, et al., 2010). Indeed, youth with OCD often experience interference in their social, familial, and academic functioning (Piacentini, Bergman, Keller, & McCracken, 2003; Piacentini, Peris, Bergman, Chang, & Jaffer, 2007). Given these deleterious effects, it is imperative that these youth receive the optimal, evidence-based intervention in a timely manner. Based on practice parameters set forth by the American Academy of Child and Adolescent Psychiatry, exposure and response prevention (ERP) is recommended as the front-line therapy for pediatric OCD (American Academy of Child and Adolescent Psychiatry, 2012). Indeed, numerous randomized controlled trials have demonstrated the efficacy of ERP (McGuire et al., 2015; The Pediatric OCD Treatment Study (POTS) Team, 2004), supporting its use in the treatment of childhood OCD. As such, it is important for clinicians and researchers alike to understand how to best implement this treatment through comprehending the rationale behind ERP, learning how to effectively conduct ERP in a systematic, personalized manner, and knowing how to address potential barriers that may complicate ERP.

Background of treatment approach

ERP is a type of cognitive-behavioral therapy (CBT) that focuses primarily on the behavioral aspects of treatment. First, CBT is broadly based on the tripartite model of the interplay between thoughts, feelings, and behaviors (Benjamin et al., 2011); in this model, each component is proposed to bidirectionally influence one another (e.g., thoughts impact how you feel, feelings impact how you behave). This model is important to consider when conceptualizing the maintenance of obsessive-compulsive symptoms in youth, which occurs through a negative reinforcement cycle (Piacentini, Langley, & Roblek, 2007).

Specifically, when a child experiences an obsession (e.g., "my hands are dirty and I'm going to get sick"), they experience an uptick in their level of discomfort, anxiety, or disgust. Consequently, they engage in compulsions in response to this obsession (e.g., immediately washing their hands five times to get rid of the perceived germs), successfully decreasing their distress in that moment. In this model, the compulsions are negatively reinforced because it takes away their discomfort in that moment, making it more likely for the child to continue engaging in the compulsions whenever they experience those obsessions in the future. As such, the only thing they learn in this OCD cycle is to engage in their compulsions in

order to get rid of their obsessions and attenuate the anxiety/discomfort. Consequently, treatment seeks to break this negative reinforcement cycle through something called "exposures" and "response prevention."

The primary component of ERP is "exposures." When doing exposures, youth are encouraged to face the thoughts and situations that make them uncomfortable in a systematic and gradual manner. For instance, a child with contamination-related concerns would be asked to touch a public doorknob, or an adolescent with rewriting compulsions would be instructed to write a sentence all the way through only once. With the exposure, it is imperative that "response prevention" occurs as well. More specifically, youth are instructed to refrain from engaging in their compulsions when completing exposures. Taking the aforementioned examples, a child with contamination-related concerns would be discouraged from washing their hands after touching the doorknob, and the adolescent would be expected to not erase and rewrite the sentence repeatedly.

The purpose of ERP is to break the OCD cycle by allowing the child to witness what would happen if they did not engage in their compulsions. This facilitates the formation of new, stronger associations between the triggering stimulus (e.g., public doorknobs) and the more realistic consequence (e.g., not getting sick, even without the use of hand sanitizer). By facing these feared situations, these youth are able to violate expectancies and learn that what they feared was unlikely to occur, or that they were able to at least tolerate the distress (Craske et al., 2008; Craske, Treanor, Conway, Zbozinek, & Vervliet, 2014). Furthermore, ERP is designed to teach the child more adaptive ways of coping with their distress, rather than cyclically engaging in their rituals. By repeatedly engaging in these exposures in multiple situations and with varying difficulty levels, the child will eventually learn how to confront their OCD-related fears without needing to engage in their compulsions to attenuate their distress.

Collectively, it is evident that breaking the OCD cycle necessitates consistency, repetitions, and perseverance in the face of distress. Consequently, support from the family will be imperative in the treatment of childhood OCD, particularly given the age of these youth. It is broadly the case that CBT with youth often requires the assistance of a caregiver, as youth are always assigned therapy homework to complete in between sessions in order to solidify the skills learned in treatment. This holds true for ERP as well, especially given the distressing nature of the homework tasks (i.e., exposures) and the need for caregiver monitoring. However, familial inclusion is also recommended so the caregivers can provide supportive coaching to help facilitate the completion of exposures (Lewin & Piacentini, 2009). Additionally, the involvement of family members will help ensure that they are able to learn how to

model appropriate reactions and avoid accommodating the child's symptoms, which is essential for optimizing success with ERP.

Chronology and components of exposure therapy for obsessive-compulsive disorder

When families initially present to a therapy session for ERP, setting a solid foundation regarding the expectations and rationale behind this treatment is imperative. By dedicating time at the forefront to discuss these pieces of information, it will help assure that all parties are in agreement with the treatment plan, ascribing a purpose to each therapeutic task and enhancing motivation for engaging in therapy. Once the psychoeducational foundation is established, a personalized treatment blueprint is created with the family; triggering thoughts and behaviors related to the child's OCD will be reviewed methodically in order to create an objective treatment plan. Once established, treatment will transition to the introduction and practice of coping skills in identified OCD-related situations. Thereafter, the remainder of the sessions will be dedicated to conducting exposures, which are the core component of ERP and should thus comprise the majority of treatment. Once substantial symptom reduction is observed, sessions are down-titrated in frequency, and relapse prevention and booster sessions occur toward the end of treatment. The specific details of each component of ERP are listed below in chronological order.

Components of psychoeducation

Regarding the actual elements of psychoeducation, clinicians should first provide a general introduction to OCD. Specifically, defining obsessions and compulsions, and providing common examples of each will help place the symptoms in context for the family. For instance, obsessions can be described in a developmentally appropriate manner by introducing them as "thoughts, pictures, or impulses that come into your head over and over again and bother you." Compulsions can be presented as "behaviors that you feel like you have to do over and over again until you feel better." Examples of symptoms can span across various subtypes (e.g., contamination, aggressive) and should be tailored toward the child's specific presentation. For instance, a child with "just right" symptoms may be provided with an example of someone who needs to pace in and out of a doorway until it feels "right" to them, or else they feel uncomfortable. By personalizing psychoeducational

materials, families are more likely to be engaged and feel understood in therapy.

A general presentation of the prevalence and etiology of pediatric OCD will be helpful for the family to better understand why these symptoms develop and how common they are. By referencing the prevalence rate, youth often feel less ostracized and can be surprised at how many of their peers may present with similar symptoms. Indeed, it is helpful to ask the patient to calculate how many youths in their school are likely to also have OCD, allowing for a concrete example of the incidence rates of pediatric OCD (Piacentini, Langley, et al., 2007). Regarding the etiology, caregivers often display a curiosity as to why their child developed OCD. It is important for the family to understand that there is not a singular, definitive cause of this disorder, but rather a multifaceted convergence of factors. Specifically, families should be informed that pediatric OCD typically develops due to a confluence of factors (genetic, environmental, biological). Pediatric OCD does have a genetic component, in which children of parents that have OCD are at higher risk of developing OCD (International Obsessive Compulsive Disorder Foundation Genetics Collaborative (IOCDF-GC) and OCD Collaborative Genetics Association Studies (OCGAS), 2017; Mattheisen et al., 2014); however, it is important to note that it is not a one-to-one ratio, so a parent that has OCD may not have a child with OCD, and vice versa. There are also environmental factors that may contribute to the pathogenesis of OCD; some individuals may have an event that triggers development of obsessive-compulsive symptoms (e.g., flooding the house after not turning off the faucet, leading to compulsive checking of sinks) or certain family factors in their immediate environment (e.g., parent imparting certain dysfunctional beliefs, such as overestimating threat). There are also biological factors that can partly contribute to the development of symptoms, such as abnormalities with brain circuitry (Modell, Mountz, Curtis, & Greden, 1989; van den Heuvel et al., 2005, 2011), as well as with chemicals in the brain, such as serotonin (Hu et al., 2006; Mundo et al., 2002) and potentially glutamate (O'Neill et al., 2017; Wu, Hanna, Rosenberg, & Arnold, 2012). With families that perseverate about the causes of OCD, validating and normalizing their desire to understand the causes of the disorder can help mitigate some distress. More importantly, emphasizing the present and describing how treatment can help target the current symptoms and lead to improved outcomes will help redirect the family's focus, harnessing their energy to be more action-oriented.

After defining what OCD is and what contributes to the development of symptoms, it is important to present how OCD is maintained through a negative reinforcement cycle (Piacentini, Langley, et al., 2007). Specifically, the cycle initiates with an obsession, causing an

uptick in the child's discomfort or anxiety. Thereafter, the urge to engage in compulsions increases and eventually leads to the child completing the ritual. The distress is then attenuated in the short term, negatively reinforcing the obsessive-compulsive symptoms. Consequently, the OCD cycle is reinforced in the long term and the child is not able to learn other ways to manage their distress (beyond engaging in compulsions), which also prevents them from experiencing what would have happened if they did not engage in their compulsions. To help reinforce this concept, personalizing the cycle and plugging in the child's specific symptoms can assist the family with visualizing how the symptoms are being maintained. It is also helpful to highlight that behaviors beyond overt compulsions can maintain this cycle, such as avoidance and family accommodation (which are discussed at length in the sections given subsequently). The general idea is to review what behaviors will make it more likely for their OCD to be maintained, and to be vigilant about what may inadvertently feed into the symptoms.

Once this negative reinforcement cycle is established, ERP should be presented as the mechanism by which the cycle will be broken. Families should recognize how ERP will break this perpetual cycle by weakening the link between obsessions and compulsions. Specifically, by exposing the child to the obsessions and feared situations without engaging in the compulsions, the child is able to learn how to manage their discomfort and see what happens if they do not do their compulsions. By refraining from engaging in compulsions, these behaviors are no longer being reinforced because the child is able to recognize other ways to manage their anxiety and learn how to tolerate the distress in other ways, weakening the bond between obsessions and compulsions.

Of note, when explaining the role of exposures, it is not uncommon for families to display anxiety and hesitation about engaging in exposures, given the inherently anxiety-provoking nature of these activities. As such, establishing the rationale for doing exposures is paramount to facilitate the family's commitment to therapy. A values-based approach by reviewing the ways in which OCD is interfering with the child's daily functioning can be very helpful in enhancing family engagement. For instance, if the child is not able to complete homework assignments because of their compulsive rereading and rewriting, highlighting the long-term gains through short-term discomfort can help the family appreciate the broader goals of therapy. Additionally, it should be established early on that exposure therapy for pediatric OCD largely employs a family-based approach (Lewin & Piacentini, 2009). That is, the inclusion of family members in treatment will help maintain consistency in how to adaptively respond to obsessive-compulsive symptoms (e.g., disengaging from symptoms), allow monitoring of homework compliance, and ensure that the child is receiving appropriate

encouragement and support in completing exposures in between sessions. Ultimately, families should come away with an understanding that all members of the family should be actively engaged in treatment to ensure that the child is getting maximal support for conquering their OCD.

At this point, it is imperative that the clinician checks in with the family to ensure that they have a solid understanding of what OCD is, how it is maintained, and how exposure therapy will help alleviate symptoms. It is essential that the family understands the rationale behind the treatment (especially exposures) in order to enhance their motivation and compliance with the forthcoming therapeutic tasks. This is also important for the purposes of debunking erroneous beliefs about exposure therapy, as caregivers may fear that the symptoms will get worse or that it will be intolerable to go through with them. Even clinicians may present with concerns about exposure therapy in general, anticipating deleterious consequences and staying away from these treatment components. However, research has not supported these fears, as youth and their parents did not demonstrate any differences in attrition, therapeutic relationships, or satisfaction with therapy when comparing youth receiving exposure- and nonexposure-based therapy (McGuire, Wu, Choy, & Piacentini, 2018). Ultimately, by ensuring that the initial foundation in ERP for OCD is established, the clinician can team up with the family to collaboratively help the child better manage the OCD.

Constructing a fear hierarchy

Once the family has acquired a foundation of the phenomenology and etiology of OCD, as well as the rationale behind exposure therapy, a personalized treatment blueprint should be constructed together with the family. Specifically, a fear hierarchy lists the child's OCD-related thoughts and behaviors in a systematic manner, starting with the least distressing items and gradually progressing up to the harder situations. To establish one, the caregiver, child, and therapist will work together to list out all of the symptoms and create a plan for what and how to target them in treatment.

Once a list of the triggering thoughts and situations are created, each item should be rated in terms of how much discomfort they cause the child. The Subjective Units of Distress Scale (SUDS; Wolpe, 1973) is typically used to numerically rate how distressing a situation is for the respondent, with 0 being not distressing at all and 10 indicating the highest level of distress possible. By rating each item on the fear hierarchy, the symptoms can be ranked from least distressing to most

distressing. It is important to note that the fear hierarchy serves as a template for how treatment will progress. As it is not a rigid list that is "locked in," it is normal for symptoms to change and for new OCD-related behaviors to arise later on in treatment, so these symptoms should be incorporated into the fear hierarchy accordingly. As such, the clinician should demonstrate flexibility and make sure to update the fear hierarchy as much as is needed. Additionally, each hierarchy item can likely be broken down into many different iterations (e.g., touching a toilet seat with a pinky finger vs a whole hand, touching a toilet seat for 10 seconds with one finger versus for a minute with a whole hand). This is particularly important to remember when conducting exposures, as this could help youth ease into various exposures and enhance compliance.

The fear hierarchy serves multiple purposes in treatment. For one, it is a visual and objective way for the family and the clinician to track progress in therapy. Although it is important to check back in with the hierarchy with each therapy session, it can also be helpful to review the progress made on the fear hierarchy (i.e., items addressed in treatment) to reinforce the family's efforts and progress. Additionally, listing the symptoms from the outset provides a good overview of what the treatment targets will be and ensures that important symptoms are not overlooked once therapy begins. The fear hierarchy also allows the child to work on relatively easier symptoms first, which can be particularly helpful for buy-in and increasing motivation for the rest of treatment. By beginning on lower difficulty items on the hierarchy, the child is able to build confidence in their ability to progress with this treatment model and confront situations that make them uncomfortable, allowing them to also practice management of their distress in easier situations. Please see Tables 11.1 and 11.2 to view two sample fear hierarchies for patients that have different OCD symptom presentations (i.e., checking compulsions and sexual obsessions). Once a thorough hierarchy is obtained, the child will learn various ways to better manage their distress when obsessive-compulsive symptoms arise.

Coping skills

Because ERP is designed to have the child confront situations that make them uncomfortable, it is helpful to teach the child some coping skills to use when they feel distressed. To help enhance motivation, one helpful coping tool is to have the child/family remind themselves why they are in treatment in the first place; this may help motivate them to engage in the exposure exercises, despite the discomfort caused by exposures. The reasons could be manifold, but families often pursue

TABLE 11.1 Exposure hierarchy for checking compulsions related to household appliances.

Feared situation	SUDS
Cook something on the stove that requires a continual simmer for extended hours; leave the house without adjusting/checking the burners	10
Leave the house for a few hours with no one home, without checking any household appliances	9
Cook something on the stove, turn off the burner, and immediately leave the kitchen; no checking for the rest of the day	9
Leave the house without checking the stove and recite a detailed script about how the house will burn down due to a fire	8
Read a detailed script about your house burning down due to household appliances catching on fire	7
Have other members of the family use various household appliances, but refrain from going into the kitchen to check them	6
Use a hair straightener and leave it on while stepping out of the bathroom for 5 minutes	6
Read real news stories of houses burning down due to household appliances; Look at pictures of burned houses	5
Turn the stove on, then off, without checking the burners for 1 minute	5
Say "The house might burn down because I didn't check the stove"	4
State out loud "The house might burn down"	3
Write words like "burn," "flame," "ash"	2

SUDS, Subjective Units of Distress Scale.

treatment because the OCD symptoms are interfering in the child's daily functioning in some way, such as with attending school, with their friends, or with home life (Piacentini, Peris, et al., 2007). For instance, a child with contamination fears that is struggling with moving onto harder exposures (e.g., touching the sink at a public bathroom without engaging in extensive handwashing rituals) could be better motivated to proceed in treatment after thinking about the related social impairment that the teenager wants to overcome (e.g., avoiding social outings for fear of engaging in extensive handwashing rituals). Asking the child to explain why the specific exposure was chosen for their particular OCD symptom can also help reinforce the rationale behind the specific task they are doing, assigning a purpose to the behavior. This can be particularly helpful for youth who appear to just be going through the motions or exhibit confusion about the task at hand; by highlighting the specific link between the exposure and the targeted

TABLE 11.2 Exposure hierarchy for compulsions related to sexual obsessions about a parent.

Feared situation	SUDS
Read sexual script involving mother aloud to mother, with eye contact	10
Read sexual script aloud to mother without facing her or making eye contact	9
Read sexual script aloud to someone (not mother)	9
Write a sexual script about having sex with mother	9
Give mother a kiss on the cheek	8
Give mother a front-facing hug	7
Holding hands with mother	6
Read news article on incest aloud to mother	6
Read a news article on incest between a mother and son	5
Write out phrases like "sex with mom"	4
State words like "sex," "penis," "vagina" out loud	3
Write words like "sex," "penis," "vagina"	2

SUDS, Subjective Units of Distress Scale.

OCD symptom, the task becomes much more meaningful, and in turn, serves to enhance motivation.

Cognitive restructuring is not typically emphasized in ERP, particularly because there is a fine line between modifying unhelpful thoughts and having it turn into a compulsion in and of itself (e.g., excessive self-reassurance). For instance, in an effort to calculate more realistic odds of actually contracting an illness, a child with contamination fears may in turn compulsively calculate the probabilities of contracting various illnesses and focus on the possibilities of becoming sick. Instead, it can be helpful to simply label OCD as an external entity in order to form a common target for the family to address in treatment, especially if the family has had difficulty separating the disorder from the child (and thus blaming the child for doing the OCD-related behaviors). Otherwise, much of the "meat" in ERP is focused on exposures, and most of the therapeutic tools are purposed to support the completion of exposures. It is particularly important to note that coping skills are *not* meant to reduce OCD-related distress in the middle of exposures; experiencing the distress while doing exposures is critical for the child's learning, so the coping skills are more to help with general management of symptoms and facilitation of exposures.

Conducting exposures

Once the fear hierarchy is established and coping skills are acquired, the treatment can transition into conducting exposures. When starting new exposures, the therapist typically states the exposure to be conducted and then first models the exposure for the child, before the child tries it out themselves. The caregiver should be shadowing these exposures as much as possible, as they will be the ones coaching their child through the home-assigned exposures. Exposures are typically completed in order from easiest to hardest, in order to make the process more palatable and to enhance compliance. Additionally, by completing the lower level items first, the child will be able to develop confidence in completing these tasks and can practice using coping skills in less distressing environments. The following dialogue is a typical exchange between a therapist and a child hearing about exposures for the first time:

"*Child*	You want me to do *what*? There's no way that I'm going to be able to get rid of all of my checking rituals before leaving the house. It's just not possible—I'm going to go crazy!
Therapist	It can be pretty scary to think about getting rid of all of your compulsions at once! That's why I won't ask you to do that, and will instead plan to do exposures in a very gradual manner; by starting with the easier situations, you can ease yourself into the treatment and build confidence in your ability to tackle harder things. By going step-by-step, it will help make the harder things seem less overwhelming, and you'll have a great toolkit to fight OCD by the time we get to the top of your hierarchy. If anything ever seems to hard, just remember that we can always break things down into smaller components (e.g., a three-step checking ritual can be addressed one step at a time)."

As stated before, each exposure can have a number of iterations in order to titrate the difficulty to the child's current ability. It is particularly helpful to break the exposure down into several components if the child has an elaborate ritual or has difficulty getting started with a hierarchy item. For instance, a child that has an extensive "just right" ritual may need to spin four times, tap the Table 11.3 times with their left hand, then three times with their right hand. Exposures may start with just the spinning part of the compulsion, gradually adding on the other parts of the ritual. In another example, a child with repetitive wiping compulsions that take up 2 hours at a time may be asked to decrease the wiping by 15-minute increments at first, rather than attempt to eliminate the 2-hour compulsion all at once. It is important to keep in mind that the ultimate goal is to eradicate the rituals completely, but sometimes it is necessary to decrease the supports gradually in order to

TABLE 11.3 Examples of typical exposures for various obsessive-compulsive disorder (OCD) symptom subtypes.

Symptom	Exposure[a]
Contamination	
Fear of touching things in public spaces	• Touching commonly used surfaces (e.g., countertops, pens at banks, doorknobs in communal places)
Cross-contamination	• Coming into contact with a "dirty" surface and touching personal items afterward
Fear of contaminated food	• Eating food that's been dropped on the floor
Harm/aggressive	
Fear of hurting others with sharp objects	• Holding a pair of open scissors on the therapist's wrist
Fear that harm will come to others	• Writing detailed scripts about the ways in which harm will come to others and reciting them aloud • Allowing loved ones to separate from patient and not engage in reassurance-seeking
Scrupulosity/religious	
Fear of offending God	• Writing and reading aloud passages praising the devil
Morality concerns	• Telling outright lies to strangers
Sexual	
Fear of being homosexual	• Looking at provocative pictures of the same sex; identifying attractive components about them
Fears of sexually abusing others	• Purposely being around others in close proximity; attend more "vulnerable" locations (e.g., locker rooms, swimming pools)
Checking	
Excessive checking of stovetops	• Leaving the house without checking the stovetop; reciting that the house will burn down when leaving
Checking items in bag	• Throwing items into the bag haphazardly and not checking what is in there the next day • Having others pack the bag for them without the patient's involvement

(*Continued*)

TABLE 11.3 (Continued)

Symptom	Exposure[a]
Symmetry/order	
Evening up clothing	• Pull one sock much higher than the other • Have the patient wear a glove on one hand but not the other
Symmetry with items	• Place items askew and haphazardly, with no structure or order
Counting	
Needing to count to a certain number	• Count to a different number • Do not count at all when doing a task
Repeating	
Rereading/rewriting	• Read through a passage only once within a certain time limit • Complete a page of homework without erasing, crossing out, or rewriting
General repeating rituals (e.g., in and out of doorways, up and down from chair)	• Walking through doorway one time and not going back through • Sitting down on a chair (without getting back up again) for 30 minutes (and gradually extending time)

[a]*Each exposure should be done in conjunction with response prevention (i.e., withholding the related compulsion). For instance, contamination exposures should be completed without allowing the patient to engage in decontamination rituals (e.g., handwashing, sanitizing, wiping, etc.).*

facilitate success and augment compliance. For a brief list of typical exposures for various symptom subtypes, please see Table 11.3.

In a related vein, exposures can be conducted via either imaginal methods or in vivo. Imaginal exposures consist of having the child imagine what their feared situation would be like in the utmost detail, as if someone was narrating a movie frame by frame. Sensory details should be included generously (e.g., sights, smells, temperature, sounds, etc.), as imaginal exposures should really allow the child to immerse themselves into the situation, as if it were truly playing out in real time. Imaginal exposures are particularly helpful for exposures that cannot be realistically completed in vivo, such as envisioning themselves in hell (for religious OCD symptoms) or picturing their house in flames because they did not check the stove enough times. Imaginal exposures can also be helpful for children that are having a particularly hard time jumping into in vivo exposures, serving as a stepping stone to completing the exposures in person. In general, in vivo exposures are preferred as the primary method, as the child and family get hands-on, real-life experience with immersing themselves in the situations and practicing the skills in real time.

It is important to note that exposures should be conducted repeatedly. For example, if a child with over-responsibility concerns only tries not to text their caregiver one time (e.g., in order to prevent them from getting into a car accident), the child is not likely to be successful in resisting these compulsions without subsequent practices. Indeed, the child would not have had enough opportunities to see what really happens when they do not engage in the compulsion, which also disallows them from practicing how to tolerate uncertainty. Tolerating uncertainty is a particularly difficult task for patients with OCD, as many of the compulsions are purposed to reduce the uncertainty in some way (e.g., washing hands to decrease possibility of germs making them sick, tapping the table a certain amount of times to decrease the possibility that the caregivers may get into a car accident). However, given the reality that life is full of uncertainties (i.e., who knows what will really happen tomorrow?), the excessive engagement in rituals becomes problematic and interfering, so exposures will help youth learn how to tolerate distress in the face of uncertainties. Additionally, it is important to practice exposures in multiple contexts, in order to generalize practices. For instance, if a child with contamination fears only practices touching the doorknob in the therapist's office, they likely will not learn to generalize these gains to other situations (e.g., doorknobs at school). This highlights the importance of context and out-of-session practices, in order to augment the number of practices/exposures and to generalize the contexts in which learning is occurring.

When conducting exposures, it is imperative not to reassure the child about their fears during exposures. It may feel counterintuitive to not tell the child that "it is okay" and "nothing bad will happen." However, reassurance will only serve to feed into the child's fears; after all, if there is nothing to be afraid of, why would we need to reassure them? More importantly, one of the main goals of exposures is to violate expectancies, not necessarily to decrease their anxiety during the task (McGuire & Storch, 2019). In order to accomplish this, the child should be asked what they believe will happen prior to completing the exposure (e.g., "The house will burn down if I don't check the stove 5 times"), complete the exposure (e.g., leaving the house without checking the burners on the stove), and then process with the therapist/caregiver what actually happened after the exposure (e.g., "The house did not burn down, even though I did not check the stove 5 times"). By doing exposures in this manner, this will allow for the maximal violation of expectations.

Instead of providing reassurance about the OCD-related fears, caregivers and clinicians alike can support the child by commending the child's efforts and sharing their confidence in the child's ability to complete the exposure. Specifically, praising the child for attempting the

exposure (e.g., "Great job being brave!") will reward the child's efforts in fighting back against their OCD, showing a sense of unity in treatment. When children are struggling with a particularly difficult exposure, sharing your confidence with their ability to complete it can help them build their own confidence in their ability to do it (e.g., "You've worked so hard and have done great with your other exposures, I know you can do this!"). Again, it is important to note that all of these types of supportive dialogue are directed at the child's efforts and ability to do the tasks, not related to reassurance about OCD-specific fears.

Additionally, children should not be distracted from the task at hand when doing exposures; this will help ensure that the child is directly confronting the feared trigger, rather than engaging in experiential avoidance (Abramowitz, Lackey, & Wheaton, 2009). It can be difficult to ask the child to focus on what is causing them distress, causing some well-meaning clinicians and caregivers to encourage the child to watch a TV show or engage in other activities whenever an OCD-related thought arises. However, by engaging in distraction whenever distress occurs, the child is functionally avoiding the OCD thought. Instead of facing the discomfort and learning from it, the child evades these triggers and is prevented from learning more adaptive ways of coping with the distress. Consequently, families should be explicitly advised to have the child focus on the exposure task in order to achieve the maximal benefit and circumvent therapy-interfering behaviors, like distraction.

The following dialogue illustrates how to keep a child focused on the exposure at hand, particularly if they are prone to purposeful distraction:

"*Therapist*	Billy, I notice that you're looking away from your hands while touching the toilet. What's going through your mind right now?
Billy	I really don't want to look at my hand, because I'm just going to think about all the germs that are crawling on it right now.
Therapist	Right, the germs are scary for you and they make it hard for you to focus. Based on what we discussed about fully confronting our fears and not avoiding them, why don't we try to get our attention back on it? Can you look at the bottom of the toilet and tell me what you think?
Billy	It's dusty and dirty, and there are germs on there.
Therapist	Good job focusing on the toilet—now move your eyes up to where your hand is and describe for me what you see and what you're thinking.
Billy	My hand is touching this gross toilet seat and now all the germs are crawling over it! It's making me feel really uncomfortable.
Therapist	You're doing a great job focusing—keep up the brave work and let's try to stick with it as long as we can. Can you continue to look at your hand and describe to me what's going on?"

Relapse prevention

Once treatment has progressed up the fear hierarchy and the most problematic and difficult symptoms have been addressed, treatment typically decreases in frequency and intensity in order to match the child's clinical presentation. Indeed, the child should be resuming more developmentally appropriate functioning toward the end of treatment (e.g., returning to school, seeing friends socially), which is a good indication that treatment will be concluding in the near future. The last few sessions should be dedicated to reviewing skills learned thus far and relapse prevention.

In relapse prevention, families are instructed about what to look out for in case of worsening of symptoms, such as an increase in frequency, intensity, distress, and impairment related to OCD. Families are encouraged to take the skills that were acquired thus far in treatment and use them during potential resurgences of symptoms in the future. As OCD symptoms often wax and wane, it is not uncommon for some symptoms (or new symptoms) to reemerge in the future, especially in the instance of partial treatment response. The child is reminded to confront these uncomfortable situations in a systematic manner, refraining from engaging in any related compulsions whenever possible. Caregivers are expected to continue their integral role of supporting the child and facilitating the continuation of exposures as needed. Booster sessions can also be offered to families (typically once a month at first, then with longer breaks), especially for children that remain symptomatic or for those that would benefit from a refresher of ERP-related skills. Finally, if it has not been done already, the family should be commended and rewarded for their bravery and efforts in treatment. It can be enlightening to review the original fear hierarchy and see what has been accomplished over the course of therapy, reinforcing the hard work and importance of continued practices to maintain these gains.

Factors complicating exposure therapy for obsessive-compulsive disorder

As is true when treating child psychopathology in general, there are myriad factors that may complicate the treatment for childhood OCD. Furthermore, given the unique and complex phenomenology of OCD, there are issues specific to the treatment of OCD. This section addresses common child and family characteristics that may arise in treatment, with discussions of how to handle these emergent difficulties.

Insight and motivation

The child's level of insight may present as a challenge if s/he does not recognize the OCD symptoms as problematic. Indeed, this is particularly true for younger children who may not have the developmental capacity to realize the impact of the disorder (or that it is a disorder at all), lacking the cognitive maturity or independence to fully understand it. In these cases, a reward system can be very helpful in incentivizing a child to participate in treatment, even if they do not want to engage in the therapeutic tasks. A structured reward system should be completed in collaboration with the family in order to develop a system that everyone can agree upon. The rewards should be incentivizing enough for the child to want to engage in treatment, but the rewards should also be something that the parents are willing to dole out with relative frequency and are not particularly excessive (e.g., it is unrealistic to promise a trip to an amusement park every time an exposure is completed). For younger children, more frequent, tangible rewards may be more effective (e.g., extra screen time, little trinkets). For older adolescents, a point system (or token economy) contributing to bigger prizes (e.g., movie tickets, new console game) are more likely to be effective.

When the problem is directed more toward low motivation, there are various approaches that can be employed to enhance engagement. Turning exposures into a game can be very effective for engaging children, as it will feel more fun and less like homework that they have to complete. For instance, contamination exposures can turn into scavenger hunts where the child has to find certain items hidden in different "dirty" areas, resulting in a grand prize if they are able to find them all. Exposures can also be treated as little scientific experiments where the child is a scientist and they are trying to test out different hypotheses. For instance, what would actually happen if I only touched the light switch once, rather than seven times? Again, a values-based approach can be helpful in these situations, in which the child recounts how treatment may help them reach their goals. Indeed, the clinician can highlight the times when the youth mentioned that they were struggling with something due to the OCD (e.g., making homework take longer to complete, getting in the way with friends), framing treatment as a way to help decrease OCD-related burden. Having the child list out potential ways that treatment can benefit them (rather than telling them how it may affect them) can also enhance their buy-in into treatment. Indeed, aspects of motivational interviewing have been shown to be helpful for improving outcomes in pediatric OCD (Merlo et al., 2010).

Family accommodation

Family accommodation is a salient phenomenon in childhood OCD, occurring in the majority of families, frequently on a daily basis (Peris et al., 2008; Stewart, Beresin, et al., 2008; Storch et al., 2007). These behaviors are characterized by a family member's involvement in the child's OCD symptoms, typically by participating in the child's compulsions or modifying their routine in some way due to the OCD (Calvocoressi et al., 1995). Family accommodation may present in myriad ways, such as facilitating avoidance, providing excessive reassurance, and changing family schedules to accommodate time spent on compulsions. Families typically provide accommodation with positive intentions, hoping to assuage the child's anxiety and reduce the time occupied by compulsions (Calvocoressi et al., 1999; Lewin, 2014; Storch, Björgvinsson, et al., 2010). It is also normalized because caregivers typically want to prevent their child from experiencing distress, which is why many parents accommodate. However, these behaviors operate contrary to the principles of exposure therapy; by giving into the child's OCD symptoms, it perpetuates the negative reinforcement cycle by disallowing the child from facing their feared situations and learning more adaptive ways to cope with the distress. Therefore the child is unable to learn that their feared outcome is unlikely to happen, or at the very least learn that they are able to tolerate the consequent distress (Abramowitz, 2013; Abramowitz & Arch, 2014). Consequently, families are discouraged from accommodating, and any existing types of accommodation should be added to the fear hierarchy with the ultimate goal of gradually eliminating these maladaptive behaviors.

Comorbid psychopathology

Children with OCD often present with comorbid diagnoses, which can prove problematic if the comorbid psychopathology starts to interfere with the typical course of ERP. Indeed, youth presenting with externalizing symptoms (Garcia et al., 2010; Torp et al., 2015), especially attention deficit/hyperactivity disorder (Farrell, Waters, Milliner, & Ollendick, 2012) and disruptive behavior disorder (Storch et al., 2008), tend to demonstrate poorer treatment response. Behavioral parent training principles employed in conjunction with typical ERP can be helpful with these comorbidities, particularly if the family is having difficulties with setting limits, providing structure, and establishing consistent expectations (Lebowitz, 2013; Sukhodolsky, Gorman, Scahill, Findley, & McGuire, 2013). For instance, techniques of planned ignoring (e.g., ignoring the child's pleas to do their rituals with them), employing reward systems for desired behaviors (e.g., using a calm voice rather

than throwing a temper tantrum), and labeled praise (e.g., "It was very brave of you to stop yourself from washing your hands—great job!") will all be helpful for behavioral problems. If the attention and hyperactivity are difficult to manage with behavioral management principles, concurrent medication may be warranted in order to help the child focus on the exposure tasks at hand.

Some internalizing symptoms (Torp et al., 2015), particularly major depressive disorder (Storch et al., 2008), have also been linked with attenuated response to ERP. Indeed, youth with comorbid depressive symptoms typically have more cognitive distortions and higher OCD symptom severity (Peris et al., 2010). If the depressive symptoms appear to be significantly interfering with the child's ability to carry on with daily tasks (let alone exposures), depression-focused treatment may be indicated prior to conducting ERP; behavioral activation (e.g., scheduling pleasurable tasks) or interpersonal therapy (for depressive symptoms highly influenced by personal relationships) are both efficacious and well-validated treatments for child and adolescent depression. Otherwise, if the OCD symptoms appear to be the primary cause of the depression (i.e., secondary depression), then ERP can generally proceed as usual and the depressive symptoms often attenuate accordingly (Zitterl et al., 2000).

Surreptitious compulsions and therapy-interfering behaviors

Subtle compulsions, especially mental rituals, can be easily overlooked in treatment. For instance, a child with religious obsessions may automatically recite, "Forgive me, God," whenever they feel they have a blasphemous thought, which makes it very hard for the clinician and caregivers to know when these behaviors are happening. Alternatively, a child with contamination fears may do a very quick wipe on their pants as a decontamination ritual, which would be easily missed if the clinician was not looking at the child during that 1 second. Given that these are compulsions, they will undermine the purpose of exposures if the child engages in these behaviors while confronting their fears. In order to prevent this from happening, a thorough assessment and thoughtful construction of a detailed fear hierarchy at the outset can help capture these behaviors and place the clinician/family on the lookout during exposures. Awareness-building exercises with the child may also be helpful, particularly if these behaviors have been ingrained into their routine and come almost automatically after an obsession; completing purposeful logs of the frequency and situations in which the compulsions come up would be helpful to assist with awareness training. A sample dialogue regarding

thoughtful communication of how to deal with subtle compulsions is included subsequently:

"Therapist	I noticed that you have been quickly brushing your hands on your pants after touching the trash can these last couple of times. Did you catch yourself doing it too, or did you not notice yourself doing that?
Billy	Oh no, I had no idea I was doing that! I have been doing all these wiping rituals for so long that I can't even keep track of them sometimes.
Therapist	You're right, it can be quite tough to break a habit that has been going on for a while, especially if it seems to just be routine now! What do you say we come up with a system to help you catch yourself when you're doing it? Would you be okay with a hand signal from me or your parent, whenever we notice?
Billy	Oh, I think raising a finger when it happens will get my attention. We can try that."

"White-knuckling" through exposures is also a common phenomenon that occurs in ERP (Herren & Berryhill, 2018), in which the child hurriedly powers through an exposure in anticipation of completing the exposure. By doing so, the child reinforces the OCD cycle by focusing on the need to escape uncomfortable situations. White-knuckling is typically observed through gritting of the teeth, tensing of the body, clenched fists, and statements of being "fine," despite apparent signs of distress. With these indications, it is important to slow the exposure down and ask the child to fully confront the feared situation. Children can be gently oriented to notice the somatic sensations they experience while white-knuckling through an exposure, drawing attention to the behaviors that should be addressed. Varying (unexpected) time limits on the exposures can help as well (to prevent the child from counting down the time until the exposure is done), and temporarily reducing the intensity/duration of the exposure can assist with allowing the child to be more present in the exposure as well. These techniques will ensure that the child is not simply going through the motions, but is instead completing the exposures as intended, allowing them to maximally benefit from treatment.

Conclusion

Pediatric OCD is a heterogeneous psychiatric disorder that imposes significant interference in various domains of life. ERP is an efficacious, front-line behavioral treatment for pediatric OCD, primarily focused on

having the child confront their feared situations and refraining from engaging in compulsions. Treatment is conducted in a systematic manner, employing a time-limited, goal-oriented approach. Therapy is personalized in content, duration, and intensity, but all youth work to learn how to face OCD-related triggers without engaging in compulsions. Through this process, youth are able to form more realistic appraisals of the situation, decrease dependence on compulsions in reducing distress, and acquire more adaptive coping skills. Together, the child, clinician, and family work to collaboratively foster a supportive environment in helping the child overcome OCD.

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