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THE EFFECTS OF FAMILY FACTORS ON TREATMENT OUTCOMES FOR PEDIATRIC OBSESSIVE-COMPULSIVE DISORDER: ACCOMMODATION AND EXPRESSED EMOTION

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THE EFFECTS OF FAMILY FACTORS ON TREATMENT OUTCOMES FOR PEDIATRIC
OBSESSIVE-COMPULSIVE DISORDER: ACCOMMODATION AND EXPRESSED
EMOTION

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A Capstone Project Submitted in Partial Fulfillment

of the Requirements for the Degree of:

MASTERS OF SCIENCE

Clinical Counseling Psychology

ILLINOIS STATE UNIVERSITY

2018

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Introduction

Imagine a 10-year-old child who experiences intrusive thoughts and obsessions related to feeling unclean and getting sick when they touch a surface that has been touched by another individual (i.e., a public doorknob). As a result, this child's distress level will increase in response to the obsessions about being unclean and potentially getting sick due to the germs on their hands, their anxiety will increase, and their sympathetic nervous system may become activated. This individual will then seek out ways to make themselves feel better and to lower their distress levels. They may be compelled to wash their hands for a period of time, or they may resort to utilizing anti-bacterial gels. One may look at this example and find this behavior to be relatively adaptive, however, many individuals diagnosed with OCD will experience impairments in their ability to function at school/work and will experience impairments in their interpersonal relationships. In this case, if the child feels compelled to wash their hands over 30 times per day, is going through large amounts of anti-bacterial gels over the week, and they actively avoid public doors due to the fear of becoming sick - these may be examples of compulsive behaviors that will likely cause impairments in various areas of their life.

Obsessive-compulsive disorder (OCD) is a disorder with core symptoms including frequent and unwanted obsessional thoughts, images, and/or impulses that cause an increase in anxiety and are typically accompanied by compulsions. Compulsions may be characterized as mental acts or ritualized behaviors in response to the obsessions, which help decrease the individual's distress and anxiety (American Psychiatric Association [APA], 2013). In the example previously mentioned, the child's obsessions manifest as unwanted thoughts relating to a fear of becoming ill and unclean when they encountered surfaces they perceive as contaminated, and these obsessions result in increased anxiety. The content of obsessions and

distressing thoughts individual experience varies greatly among individuals. Some common themes that have been cited in the literature about OCD include obsessions about contamination, concerns about the symmetry, distressing thoughts about forbidden subjects (i.e., sexuality, aggression, or religion), and concerns about harmful events happening to oneself or their loved ones (Kraepelin, 2015). Compulsions differ from obsessions as they manifest as acts and behaviors that occur following the obsessions, and serve as a way for the individual to lower their anxiety and stress levels. For example, in the case mentioned previously, the child responds to the obsessions about feeling unclean and becoming ill by washing their hands profusely, utilizing large amounts of anti-bacterial gels, and by avoiding places and objects they perceive as contaminated. Other common compulsions that have been cited in the literature on OCD include excessive hand-washing and/or showering, rituals that involve repetition, counting and ordering, compulsions relating to checking behaviors, and compulsions relating to repetition of self-affirmations (Kraepelin, 2015).

Although compulsions are ways in which individuals are able to lower their distress and anxiety, often times, the relief obtained by performing the compulsions is short-lasting and serves as reinforcer for future engagement in these rituals when the individual is faced with obsessions (Deacon & Abramowitz, 2004). For example, the child who engages in repeated hand-washing, use of anti-bacterial gels and avoidance of “contaminated” objects will feel relief when they engage in these compulsive behaviors, and the feeling of relief will serve as a reinforcer for the child to continue engaging in such behaviors, as it will make them feel better when they are faced with obsessive thoughts. In many cases, when left untreated, symptoms develop a chronic nature, may increase in frequency and intensity over time, may significantly

impair various areas of an individual's life, and may further impair their quality of life (de Silva, 2003).

OCD in Children and Adolescents

Etiology

Research on the emergence of OCD symptoms across pediatric and adult populations have suggested biological, environmental and cognitive-behavioral factors contributing to the development of OCD. The biological approach suggests a link between OCD symptoms and a dysregulation in the brain's neurotransmitter systems. Specifically, research has reported findings relating to dysfunctions in serotonin transporter and receptor genes, such that individuals diagnosed with OCD may show hypersensitivity to receptors (Gross, Sasson, Chopra, & Zohar, 1998). Research has also suggested dysfunctions within glutamate transporter genes and dysregulations within the dopamine system may be associated with OCD (Camarena, Loyzaga, Aguilar, Weissbecker, & Nicolini, 2007; Griest, Jefferson, Kobak, Katzelnick, & Serlin, 1995). In addition, brain-imaging studies utilizing children and adult samples have reported individuals diagnosed with OCD may exhibit white matter anomalies in the frontal regions of the brain responsible for inhibition of responses and planning, which may suggest the dysregulations of certain brain regions could be associated with the development of OCD. Moreover, it has been suggested specific brain regions, such as the basal ganglia, frontal orbito-striatal and dorsolateral prefrontal cortex, have been associated with the repetition of behaviors and doubting, which are two common features of OCD, suggesting overactivity of pathways associated with these brain regions may contribute to the development of OCD (Menzies, Williams, & Chamberlain, 2008; Rauch, Whalen, Dougherty, & Jenike, 1998). In addition, research on the neurobiological components of OCD have reported individuals seems to display

increased levels of limbic system metabolic activity, which is suggested to play a role in increased stress and anxiety levels (Hettema, Neale, & Kendler, 2001). Research on genetic factors and OCD etiology have also suggested a heritable component. One study found individuals diagnosed with OCD were more likely to have a first-degree family member who was also diagnosed with OCD, when compared to controls who were diagnosed with other anxiety related disorders (Hettema et al., 2001). Twin studies have also suggested a moderate heritable component to the development of OCD, such that studies have reported genetics accounting for 27-65% of the variance in OCD symptoms (Van Grootheest, Cath, Beekman, & Boomsma, 2007). Although heritability seems to increase one's risk of developing OCD, the literature suggests genetics may not be the sole contributor to the development of OCD.

Cognitive-behavioral approaches have suggested OCD emerges from one's patterns of dysfunctional cognitions, one's ways of thinking that skews their views about themselves, the world, and others, with the recognition that all individuals will encounter unwanted thoughts and images at some point in their lives, however, not all individuals develop OCD (Abramowitz, Taylor, & McKay, 2009). It has been suggested these unwanted thoughts and images individuals experience may develop into obsessions when one appraises the unwanted cognition as being highly important, immoral, threatening and/or unacceptable (Abramowitz, Khandker, Nelson, Deacon, & Rygwall, 2006). As a result of such appraisals, the individual will experience high levels of distress, which will motivate them to neutralize the unwanted cognition by suppressing or engaging in acts that remove or prevent the unwanted cognition (Abramowitz et al., 2009).

Common cognitive distortions experienced by individuals diagnosed with OCD has been suggested to include the over-importance of thoughts, also known as thought-action fusion, the overestimation of danger, and inflation in responsibility (McLean et al., 2001). An individual

who experiences the cognitive distortion of thought-action fusion often tends to believe a thought is equal to an action, such that, if an individual experiences obsessive thoughts relating to causing harm to others, they may believe this thought is morally equivalent to engaging in the action of harming the other person, or they may believe having such a thought must mean they want to cause harm to others. The overestimation of danger refers to one's tendency to believe the potential for danger is greater than it actually is. For example, one may believe if they make a mistake at school, even a small one, they will certainly get in trouble with the teacher and will be held back a grade. Another common cognitive distortion discussed in the OCD literature includes the inflation of responsibility. This refers to one's beliefs about their own role in influencing certain events, such that, an individual may feel responsible for negative events that have occurred, or may feel responsible for preventing such events from occurring. For example, a child may believe they must decontaminate various areas of the home, otherwise their family members will become ill (McLean et al., 2001; Rachman, 2002; Salkovskis, 1985).

It is important to consider factors that may influence one's tendency to appraise their cognitions in a maladaptive manner. Research has suggested such appraisals are likely a result of several experiences in early life. According to a study by Salkovskis, Shafran, Rachman and Freeston (1999), misappraisal may arise from one's early sense of responsibility for preventing threat, and self-blame, that is reinforced during childhood by important individuals in their environment, which may lead to a strong justification of beliefs about their own responsibility (i.e., when a child is forced to assume a role with responsibilities at an early age, or when the child is consistently blamed for negative events in which they had no responsibility). Misappraisal may also occur as a result of early experiences in which rigid and extreme expectations of conduct have been enforced, which have been argued to result in increased sense

of responsibility, guilt, and inflexibility (i.e., strict upbringing by authoritarian parents, or strict religious/educational institutions). Misappraisal of cognitions has also been argued to arise from early experiences of children growing up in families in which excessive worries and anxiety are prominent among family members, such that the child grows up with the notion that “danger is around the corner” (i.e., individuals with highly worried and anxious parents may learn to catastrophize “normal” daily issues). Another possibility that may lead to one’s misappraisal of their cognitions may be experiencing an incident in which their actions or inaction contributed to a negative occurrence, such that the individual may experience feelings of guilt and inflated sense of responsibility (i.e., checking compulsions resulting from the individual forgetting to lock their front door, which resulted in a burglary). Lastly, misappraisal of cognitions may occur as a result of an incident that appears to have been caused by one’s thoughts, actions, or inaction, such that the individual feels responsible for having caused misfortune (i.e., a child wishing the death of an adult, and the adult getting into a car accident). The possible causes of maladaptive appraisal of cognitions are not mutually exclusive, and have been argued to have considerable overlap. They may contribute to how one learns to view themselves and the world, and may be critical factors for the development of obsessive-compulsive symptoms in individuals who have genetic predispositions and vulnerabilities (Salkovskis et al., 1999).

According to this model, obsessive-compulsive behaviors develop as a way to neutralize the unwanted, distressing cognitions, and to prevent harmful events from occurring (Abramowitz et al., 2009). Compulsive rituals become pathological because they are continuously and immediately reinforced by the relief from anxiety and distress, and by the temporary relief from the obsessive thought. In addition, when the individual engages in compulsions to neutralize their obsession, they are prevented from learning their appraisal of the unwanted image is not

realistic (i.e., the child will not learn the unwanted image of her causing harm to her mother will not lead to the act of her actually causing harm to her mother). Compulsions have also been argued to teach and reinforce the notion that the individual is responsible for preventing the unwanted consequence from occurring, as the feared obsession does not occur following the completion of the ritual (Abramowitz et al., 2009). The cognitive-behavioral model has received empirical support across the literature, and seems to account for the heterogeneous nature of obsessive-compulsive symptoms across individuals due to its focus on specific unwanted cognitions one may experience, and its emphasis on individuals' learning experiences that may strengthen and reinforce their OCD symptoms (Abramowitz et al., 2006; Abramowitz, Nelson, Rygwall, & Khandker, 2007).

A possible mediator for environment-gene interactions leading to the expression of OCD in individuals with genetic predispositions and learned cognitive misappraisals, is the experience of stress and trauma. Although not much is understood about the role of stress and trauma in the development of OCD in the pediatric population, it has been suggested traumatic experiences in childhood may increase one's risk of developing OCD (Franklin et al., 2010). The available literature has suggested reports of traumatic experiences seem to be overrepresented among those diagnosed with OCD, when compared to controls with other psychiatric diagnosis. Which may suggest trauma could contribute to the development of OCD to some degree. Additionally, it has been found those with a comorbid diagnosis of PTSD and depression tend to experience more frequent and severe OCD symptoms (Hemmings et al., 2013; Lafleur et al., 2001). Similarly, in a study utilizing retrospective reports of adults diagnosed with OCD, it was found the experience of emotional abuse and neglect was associated with the manifestation of obsessive-compulsive symptoms (Hemmings et al., 2013). Going in line with the notion that environmental factors may

contribute to the development of OCD, it was found monozygotic twins who scored high on measures of obsessive-compulsive symptoms were likely to report higher rates of sexual assault incidents, when compared their counterpart scoring low on obsessive-compulsive measures (Cath, Van Grootheest, Willemsen, Van Noppen, & Boomsma, 2008). Based on these findings, it is possible the experience of trauma may be a contributor to the manifestation of obsessive-compulsive symptoms, however, more research is needed to clarify the role of traumatic experiences and comorbid psychiatric diagnosis in the development OCD.

Any one model of etiology is neither necessary nor sufficient for the development of obsessive-compulsive symptoms. Overall, the etiology of OCD is often conceptualized as a combination of biological, environmental, and cognitive-behavioral factors and vulnerabilities, and is believed to consist of several causal pathways for the development of OCD in individuals (Abramowitz et al., 2009).

Symptom presentation

According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V), the criteria for an OCD diagnosis requires the presence of obsessions, compulsions, or both; the obsessions and/or compulsions must be time-consuming, must cause functional impairments, or cause significant distress; the obsession and/or compulsions must not be attributable to the effects of substance abuse, medication use, and other medical conditions; and the obsessions and/or compulsions cannot be better explained by the symptoms of other psychiatric disorders. The specifiers include: with good or fair insight, with poor insight, and with absent insight/delusional beliefs, which are used to describe the individual's levels of recognition and belief that their symptoms are true and necessary. An additional tic-related specifier may be used if the individual displays, and/or has a history of tic-like symptoms (i.e., a

distressing sensory state that may lead to excessive blinking, twitching, etc.) (American Psychiatric Association [APA], 2013).

The DSM-5 criteria for diagnosing OCD does not differ for children and adults, as it has been shown that, overall, both seem to exhibit a similar pattern of manifestation of symptoms and presentation (March & Leonard, 1996). The age of presentation does not seem to mediate the types and themes of obsession and compulsions reported by children and adults, although children may exhibit greater difficulties in their ability to express the purpose of their compulsions (Mancebo et al., 2008). According to the literature, the average age of symptom onset among the pediatric population is 10.3 years of age. Children and adolescents seem to show similar common obsessions of contamination, fear of harm to themselves and/or loved ones, and urges relating to needing order and precision. The common compulsions among the pediatric population includes cleaning behaviors, counting, repeating, checking, and organizing. Additionally, children and adolescents may experience increased anxiety and panic if others try to interfere or prevent the compulsive behavior, which may lead to feelings of depression, anger, and oppositional behaviors (Mantz & Abbott, 2017).

The terms subclinical OCD is used to categorize individuals whose obsessive-compulsive symptoms have become more intense and frequent than average, however, do not meet full criteria for an OCD diagnosis (Zucker, 2005) An example may include individuals who do not experience functional impairments in their daily lives due to their obsessive-compulsive symptoms, such as, individuals who experience some distress and anxiety, and experience impairments relating to concentration issues, but are still able to attend school, maintain good grades, maintain healthy relationships, etc. Subclinical OCD has been described as being a weaker manifestation of OCD, while some have conceptualized subclinical OCD as an earlier,

mild form of OCD that may lead to more severe symptoms over time, if left untreated (Flament et al., 1988; Thomsen, 1993; Valleni-Basile et al., 1996). In contrast, other researchers have conceptualized subclinical OCD as a separate entity than OCD, with a less chronic manifestation of symptoms over one's lifetime (Grabe et al., 2000).

In a study by Berg et al. (1989), a small sample of 10 adolescents with subclinical OCD at baseline were studied. It was reported one adolescent met full criteria for OCD at a two-year follow up interview, while 4 adolescents remained at baseline for subclinical OCD. In a similar study, it was reported among a sample of 64 middle school children with baseline subclinical OCD, 1.5% developed OCD at one-year follow-up interview, while 23.5% remained at baseline for subclinical OCD, and 75% no longer exhibited obsessive-compulsive symptoms, suggesting subclinical OCD symptoms may fluctuate and subside over time, and may not be associated with worsening of symptoms over a period of 2 years (Valleni-Basile et al., 1996). Zucker (2005) also reported findings relating to the waxing and waning course of subclinical OCD among a sample of 85 young adults, such that participants in the control waitlist group seemed to experience a natural decline in obsessive-compulsive symptoms, which was intensified in the group participating in an early-prevention cognitive-behavioral workshop. It was reported only one participant in the waitlist control group met criteria for OCD at a 5-month follow-up. These findings were suggested to indicate subclinical OCD may not be associated with significant risk for the development of clinical OCD over a period of 5 months (Zucker, 2005). Moreover, subclinical symptoms have been suggested to share similar characteristics with clinical symptoms such as a waxing and waning course, and similar obsessive-compulsive themes (i.e., fear of contamination and cleaning rituals). However, there still seems to be a lack of data on subclinical OCD manifestations among the pediatric population, thus, its relationship to clinical

OCD manifestations remains unclear. Additional longitudinal research is needed among the pediatric population experiencing subclinical OCD symptoms to determine its course and risk factor for the development of clinical OCD (Zucker, 2005).

Similar to the adult population, research has found a significant amount of comorbid disorders and related symptoms that seem to accompany the OCD diagnosis in children and adolescents. Specifically, common comorbid diagnosis include anxiety disorders, tic disorder, conduct/disruptive/impulse control disorders, depression, and eating disorders (Heyman et al., 2003; Geller, 2006). The subclinical OCD population has also been reported to exhibit high levels of comorbid psychiatric diagnosis such as major depression, anxiety disorders (i.e., panic disorder, social phobia, generalized anxiety disorder), and substance abuse disorders (Zucker, 2005).

Prevalence

Several epidemiological studies have suggested that although results may vary across different populations, OCD is prevalent among the pediatric population and follows a chronic course, with symptoms fluctuating over time. Research has suggested a prevalence of obsessive-compulsive symptoms and impairments in daily living among 0.1-4% of the pediatric population between the ages of 5-15 years old (Geller et al., 1998). Specifically, research has reported estimates of 0.2% to 2.9% in the U.S. pediatric population, 0.2% in the Swiss pediatric population, and up to 4% in the pediatric population in New Zealand (Costello et al., 1996; Douglas, Moffitt, Dar, McGee, & Silva, 1995; Heyman et al., 2003; Steinhausen, Metzke, Meier, & Kannenberg, 1998). In contrast, estimates for subclinical OCD prevalence among pediatric samples has been estimated to range from 2.5% to 5.5% (Brynska & Wolanczyk, 2005; Canals, Hernandez-Martinez, Cosi, & Voltas, 2012). It has been argued OCD consists of two separate

peaks of incidence across the lifespan, one occurring between the ages of 9-10 years old, and the other occurring in early adulthood (Franklin et al., 2010). It has been suggested the long-term prognosis for pediatric OCD is complicated by adverse factors such as very early age of onset, comorbid psychiatric disorders, the need for inpatient treatment, and having a first-degree relative diagnosed with OCD. In a meta-analysis of 22 studies on OCD prevalence rates among the pediatric population ($N = 152$), it was reported a mean persistence rate of symptoms of 41% for a full OCD diagnosis, and 60% for a full diagnosis or subclinical symptoms over a period of 1 year to 15.6 years ($M = 5.7$) (Franklin et al., 2010).

Similar studies have been conducted on adult populations, ages 18 and up, presenting with obsessive-compulsive disorder. Similar to pediatric prevalence rates, there seems to be some degree of variation across different samples. For example, in a study utilizing epidemiological surveys among a sample of 2073 adults in the U.S., results showed a lifetime prevalence rate of 2.3% and a 12-month prevalence rate of 1.2% (Ruscio, Stein, Chiu, & Kessler, 2010). Similar results have been reported by the Epidemiologic Catchment Program, which reported prevalence rates among adults, ages 18 and up, across five U.S. communities to range from 1.9% to 3.3% (Mantz & Abbott, 2017). Additionally, in a study conducted by the Cross National Collaborative Group, it was reported individuals 18 and up, across seven different countries, showed a 12-month prevalence rate of 0.4 to 1.8% (Weissman et al., 1994). In addition, research on adult samples have suggested up to 80% of adults with OCD report symptom onset in childhood or adolescence (Freiheit, Vye, Swan, & Cady, 2004).

Subclinical OCD also seems to be prevalent among the adult population. One epidemiologic survey reported 22-26% of a sample 2200 individuals reported experiencing obsessions or compulsions, however, as few as 0.06% of these individuals received an OCD

diagnosis (Stein, Forde, Anderson, & Walker, 1997). In another study utilizing adult samples, the lifetime prevalence rates for subclinical OCD was estimated to be 2%, with 12-month prevalence rates of 1.6%. Although subclinical OCD rates were reported to be higher than clinical OCD rates, no clear conclusion was drawn on the relationship between clinical OCD and subclinical OCD among adult samples (Grabe et al., 2000).

Functional Impairment due to OCD Symptoms

Although the majority of children in treatment for OCD seem to be in early to late adolescence, early-onset OCD cases can be diagnosed between the ages of 7 and 12, some children may begin to show symptoms as early as the age of 4. The impairment children and adolescents experience due to this disorder can be significant, and it is important to take into consideration the developmental processes that take place during early years. Research on the areas of function impaired by obsessive-compulsive symptoms has found approximately 90% of children and adolescents reported significant impairments such as issues concentrating in school and on school work, and issues with daily activities such as getting ready for bed, with impairments in at least one domain (i.e., school, home, interpersonal relationships). All impairments seemed to be correlated to the individual's OCD (Piacentini, Bergman, Keller, & McCracken, 2003).

Both adults and children diagnosed with OCD and their family members report impairments in family function domains and distress in family relationships. Levels of distress have been reported to range from 60%-90% for families with both adults and children diagnosed with OCD (Piacentini et al., 2003). Additionally, research comparing families of individuals with DSM-V diagnosis has found individuals diagnosed with OCD reported significantly greater family functioning impairment than individuals diagnosed with social phobia and panic disorder

(Lochner et al., 2003). These findings, paired with the observation that the vast majority of adults in treatment for OCD (up to 80%) have reported an onset of symptoms in childhood, emphasizes the importance of early detection and treatment (Millet et al., 2004). Moreover, these findings illustrate the importance for therapists treating individuals with OCD to be competent in managing family conflict and distress.

Treatment Modalities

Cognitive-Behavioral Therapy and Pharmacotherapy

Cognitive-behavioral therapy (CBT) and pharmacotherapy are among the leading treatment modalities to treat children and adolescents diagnosed with OCD. The choice of combined or purely CBT or drug treatment often depends on the severity and frequency of obsessive-compulsive symptoms, and client and family preferences. In most cases, CBT is recommended as the first line of treatment for children, adolescents, and adults. In more severe cases, psychotropic medications are recommended in combination with CBT (Geller & March, 2012). CBT refers to an evidence-based treatment modality that operates on the assumption that individuals have different patterns of thinking about themselves and the world, and these patterns of thinking will influence the ways they behave, which has the power to influence the development and maintenance of psychopathology. The maladaptive patterns of thinking and behaving within OCD that are commonly addressed, are one's appraisal of their obsessions and compulsions as being necessary, highly important, threatening, immoral, and unacceptable. As the process of misappraisal of obsessions has been suggested to increase one's anxiety, and ultimately contributes to the engagement in rituals, as the rituals substantially lowers one's anxiety, and reinforces the OCD cycle (Abramowitz et al., 2009). CBT treatment has been studied and practiced for close to 40 years. The recommended time-frame for treatment has been

suggested to be on average 14 weeks, with weekly or bi-weekly sessions depending on symptom severity. CBT has also been seen to be effective for children and adults, with younger children requiring greater parental engagement in treatment (Franklin et al., 2010; Storch et al., 2007).

CBT treatment for OCD will involve the use of behavioral interventions such as Exposure and Response Prevention (ERP), which involves exposing the child to the anxiety-provoking obsession and preventing the accompanied compulsive behaviors from occurring. When an individual engages in compulsive behaviors to manage their anxiety about their obsessions, they are ultimately responding to their obsessions by avoiding, stopping, or removing the aversive stimuli, as a result, they will immediately feel better. This process of utilizing compulsions to neutralize the obsessive thoughts can be labeled as negative reinforcement. Overtime, the more an individual engages in compulsive behaviors to reduce their anxiety caused by the obsession, the more the obsessive-compulsive cycle is reinforced, and often, individuals begin to rely solely on their compulsions to reduce their anxiety (Aguayo, Melero, & Lazaro, 2014). During ERP exercises, the client and therapist will create OCD hierarchies, which consist of the client's obsessions ranked from least anxiety-provoking, to most anxiety-provoking. Starting with the least anxiety provoking obsession and progressing to most anxiety provoking obsession, the therapist will work on exposing the client to their obsessions while preventing the client from engaging in compulsive acts that neutralize their obsession and lowers their anxiety. The process of preventing the client's engagement in compulsive rituals is essential in targeting the negative reinforcement process, as it prevents the avoidance of the aversive stimuli and allows the individual to fully confront their obsessions and the accompanied anxiety (Aguayo et al., 2014). Overtime, the body and nervous system will learn to habituate to the anxiety caused by the obsession, in other words, the client's anxiety will begin to naturally subside, without the

need for the compulsions to be carried out. The aforementioned example of the child who engages in excessive hand-washing and use of anti-bacterial gels in response to obsessions relating to fears of contamination illustrates the concept of negative reinforcement within the context of OCD. The child's behaviors of excessive hand-washing and use of anti-bacterial gels immediately removes the aversive stimuli (i.e., anxiety about fears of contamination). This immediate relief from his anxiety serves as a reinforcer, such that, when he experiences obsessive thoughts in the future, he will be more likely to engage in the compulsive acts. ERP will enable the child to confront his obsessions and fears, without the engagement in compulsive behaviors. It has been argued ERP exercises can last more than 90 minutes if the client has not experienced a decrease in anxiety, and can be terminated faster if the client reports anxiety relief (Franklin et al., 2010). The goal of CBT is to break the association between the anxiety-provoking obsessions, and the compulsive behaviors that feed and maintain the cycle of OCD (Eisen et al., 2006; Koran, Thienemann, & Davenport, 1996). In addition to ERP techniques, cognitive restructuring can also be utilized in CBT treatment if the client has sufficient insight into their symptoms, as it involves targeting and modifying the false beliefs, maladaptive thoughts and cognitions related to obsessive-compulsive symptoms. Also, although relaxation training is not solely associated with CBT, it may be utilized in treatment, as it may help the child manage their affect and anxiety during exposure exercises, making the exercises manageable to practice in session and in their homes (i.e., deep breathing techniques, grounding techniques, progressive-muscle relaxation) (Rapoport & Inoff-Germain, 2000).

Medication is recommended with CBT for individuals presenting with more severe symptoms, and seems to be effective in reducing symptom severity (March et al., 1998). Currently, the preferred medication often prescribed to individuals diagnosed with OCD is

Selective Serotonin Reuptake Inhibitors (SSRIs), approved SSRIs currently approved for the pediatric population include fluoxetine (recommended for ages 7-17), fluvoxamine (recommended for ages 8-17), sertraline (recommended for ages 6-17), citalopram (recommended for ages 8-17), and paroxetine (recommended for ages 8-17). SSRIs have been shown to be effective by increasing the amount of the serotonin in the brain, as it inhibits the reuptake of this neurotransmitter. Several studies have been conducted on the efficacy of SSRIs in the reduction of OCD symptoms among children and adolescents, such that symptom reduction in up to 70% of clients has been reported to range from 30%-47% after 8-13 weeks of medication treatment alone, compared to control groups of no medication (Franklin, Weisz, & Weisz, 2010; Geller et al., 2001; March et al., 1998; Riddle, Scahill, King, & Hardin, 1992; Riddle et al., 2001). Clomipramine has also been approved for children of 10 years of age or older, and belongs to the class of drugs of tricyclic antidepressants. Its mechanisms are similar to those of SSRIs, as it affects the reuptake of serotonin and norepinephrine, which have been suggested to influence OCD and depressive symptoms. This drug is often used when children don't respond to SSRIs, as it may have more adverse side effects (Andrade, 2013; Franklin et al., 2010). The efficacy of clomipramine has been reported to be comparable to SSRIs, with symptom reduction decreasing by 20-30% over a 12-week period in patients, however, it may be accompanied with increased health risk and side effects (i.e., seizure, increased blood pressure), and seems to be less tolerated by individuals (Andrade, 2013; Franklin et al., 2010). Special considerations should be given with medication treatment, as common side effects may include behavioral activation, which may be manifested as the worsening of clinical symptoms, impulse control issues, increased level of activity, and hyperactivity. Side effects such as apathy, mania, restlessness, and thoughts of suicide have also been reported. Side effects may occur within the

first weeks of starting SSRIs or clomipramine, and may subside with time, or may require alterations in dosage and/or medication, thus, it has been suggested it is important to provide psychoeducation to the child and parents about the medication being prescribed. It has been suggested response to treatment can take up to 12 weeks in children and adults (Walkup & Labellarte, 2001). In addition, it has been suggested some children may experience an increase in OCD symptomology following the discontinuation of medication (Franklin et al., 2010; Thomsen, 2000). Overall, the data presented suggests a modest efficacy of SSRIs and clomipramine in the treatment of OCD for the pediatric population, with no significant differences in obsessive-compulsive symptom reduction, and all proved to have greater efficacy than placebos (Franklin et al., 2010).

From the available literature on CBT and pharmacotherapy, it has been suggested although CBT and pharmacotherapy have been shown to be efficient ways of reducing OCD symptoms, many children may remain symptomatic (Franklin et al., 2011). The Pediatric OCD Treatment Study (POTS) (2004) studied the efficacy of sertraline and CBT across a 12-week period. Reports showed children in the combined medication and CBT group showed a 54% remission rate, 39% in the CBT group, 21% in the medication group, and 4% in the placebo group. In a study conducted by Franklin et al. (2011), CBT remission rates were reported to be 39% for CBT alone, and remission rates of 54-69% were observed with combined CBT and pharmacotherapy treatments. McGuire et al. (2015) found average remission rates for children engaging in combined CBT and pharmacotherapy ranged from 22% to 47%. Other studies comparing the efficacy of CBT treatment for pediatric samples diagnosed with OCD have reported symptom reduction rates ranging from 44-50%, and 46-50% for combined CBT and pharmacotherapy treatments (Benazon, Ager, & Rosenberg, 2002; Piacentini, Bergman, Jacobs,

McCracken, & Kretchman, 2002). In one of the few long-term studies on the efficacy of treatment modalities among 48 children with OCD, it was reported 70-84% of children maintained treatment gains following 12 or 24 months after CBT treatment termination (Barrett, Farrell, Dadds, & Boulter, 2005).

Acceptance and Commitment Therapy

Although the vast majority of individuals with OCD are treated with CBT and/or pharmacotherapy, several individuals fail to respond to treatment. It has been argued factors such as medication intolerance, difficulties with ERP exercises, and premature termination may contribute to negative outcomes (Franklin et al., 2011). In such cases, additional treatment options have been made available. A recent treatment modality referred to as Acceptance and Commitment Therapy (ACT) has been gaining the interest of researchers and practitioners. ACT operates on the assumption that psychological inflexibility is the hallmark of OCD, such that the individual attempts to control their maladaptive cognitions associated with increased anxiety and engagement in rituals, thus, the focus of ACT treatment is on the cognitive aspect of the disorder (Twohig, 2009). During treatment, the clinician and client focus on lessening the influence and impact of their obsessions through the practice of mindfulness skills, while encouraging the acceptance of the obsessions. Mindfulness techniques refer to having the ability to view one's obsessions as simple thoughts, and being able to separate oneself from the obsession (Barney, Field, Morrison, & Twohig, 2017). Through mindfulness, one may experience a greater awareness of the effects of their obsessions and compulsions on their bodies and mind. The acceptance of obsessions relates to practicing treating the obsessions and anxiety as though they are allowed and welcomed, as opposed to one spending their energy on pushing away and regulating their obsessive thoughts (Barney et al., 2017). An added layer of ACT is the focus on

one's values, such that, clinicians encourage clients to spend time participating in activities they are interested in, and that add meaning to their days (i.e., called behavioral commitments).

Through mindfully accepting one's obsessions, and focusing their energy on engaging in value-consistent activities, it has been argued one can let go of the psychological inflexibility that gives power to one's obsessions (Barney et al., 2017).

The efficacy of ACT has been supported in studies utilizing adult samples, however, limited research is available on the efficacy and applicability of ACT concepts in the pediatric population diagnosed with OCD (Barney et al., 2017; Bluett, Homan, Morrison, Levin, & Twohig, 2014). In a study by Barney et al (2017), ACT was utilized among a sample of children, ages 7 to 12, diagnosed with OCD. In this study, researchers reported modifications to this approach that deviated from ACT practices with adults. For example, ACT terms were used in more concrete ways, such that mindfulness and acceptance exercises were more clear to the children, researcher also utilized age-appropriate stories, metaphors, and examples. Researchers also incorporated the children's parents in treatment by either having the parent for the full session, or for the last few minutes of session. Parents were also encouraged to assist in the implementation of ACT exercises in and out of session, and were often given homework assignments to complete with their children to practice and enhance their skills. In this study, treatment lasted between 8 to 10 weekly sessions, lasting between 50-60 minutes each. The content of the sessions included discussion and activities related to identifying feelings of anxiety (i.e., where it feels in the body, how it feels), mindful breathing techniques, the use of metaphors to externalize OCD and anxiety (i.e., anxiety is like a wave), introducing acceptance with metaphors, identifying and recognizing thoughts, behavioral commitment activities, and grounding techniques (i.e., listening for sounds). Outcomes following termination showed a 28%

reduction in OCD symptoms, and a 42% reduction at a 3-month follow-up interview.

Interestingly, measures of psychological inflexibility at follow-up showed a reduction in inflexibility among the children and their parents. In contrast, when compared to studies utilizing CBT treatment, CBT showed greater symptom reduction rates among the pediatric sample (40-50%), however, treatment duration in these studies were longer, often lasting for over 12 sessions (Barney et al., 2017; Barrett et al., 2005; Storch et al., 2007). Although additional research is needed to determine the efficacy of individual and family-involvement ACT among the general pediatric population, these preliminary findings highlight the efficacy of additional treatment modalities for individuals not engaging in CBT and/or pharmacotherapy treatments.

Literature on long-term treatment outcomes for pediatric OCD is scarce, and more information is needed to determine the efficacy of current treatment modalities. Additionally, a difficulty researchers and mental health professional have encountered while investigating the short-term and long-term efficacy of treatments for children diagnosed with OCD, is the lack of consistency within research studies and differing methods of determining what are clinically significant markers of change and symptom reduction (Fisher & Wells, 2005). These barriers have made it difficult for researchers to draw absolute conclusions about the efficacy of psychological treatments for children. The extant literature focuses on assessing the absence or presence of OCD symptoms according to the Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria at short time intervals and fails to present data on the course of OCD symptoms over longer time periods (Fisher & Wells, 2005).

Despite the reported success rates for individuals undergoing psychotherapy and/or pharmacotherapy treatments, it has been reported up to 25% of children fail to respond, many fail to experience symptom reduction following treatment termination, and there seems to be a

lack of data available on long-term maintenance of gains, drop-out rates and relapse rates among the pediatric population (Franklin & Foa, 2002; Kyrios, Hordern, & Fassnacht, 2015). As a result of the lack of knowledge regarding treatment efficacy for children diagnosed with OCD, researchers have been increasingly interested in understanding the role of family factors and the child's environment as a predictor of treatment outcomes (Steketee & Van Noppen, 2003).

Family Processes

Why Consider Family in Treatment?

Most children who present for treatment are brought into therapy by their caregivers. Some reports have also indicated approximately 25% of adults seeking treatment for OCD reside with their parents (Steketee & Pruyn, 1998). As a result, research on families with children diagnosed with OCD has increasingly focused on the dynamics between the child and the parents (Renshaw, Steketee, & Chambless, 2005). When parents seek treatment for their children, it is often due to a significant level of functional impairment in the child's life. In addition to the child's increased distress due to their OCD symptoms, many family members also report some level of impairment within family functioning and family relationships, with family members' self-rated levels of distress ranging from 60% to 90% (Renshaw et al., 2005). Cooper (1993) found 75% of 225 families reported a form of disruption in their lives due to a relative's OCD symptoms, including the loss of personal relationships, less leisure time, and some financial difficulties.

When faced with increased stress relating to a family member's OCD symptoms, families may play a role in trying to reduce the child's anxiety and compulsive rituals by attempting to adapt to the current circumstances. This may manifest in several different ways, family members may become actively involved in rituals, they may provide reassurance for the child while the

child engages in rituals, they may punish the child to try to minimize ritual occurrence, and/or they may change their patterns and routines to minimize the negative impacts brought about by OCD symptoms (Geller et al., 1998; Flessner et al., 2011).

When treating a child with OCD it is important to consider the child's environmental context. Although family factors has not been seen as an isolated causal factor to the development of OCD in children, research has suggested family interactions may influence symptom expression, severity and treatment outcomes (Salkovskis et al., 1999). A child's OCD symptoms can have a negative impact on family functioning, thus, the stress from family difficulties could act as a stressor on the child, which could further exacerbate their OCD symptoms (Renshaw et al., 2005). In addition, it is particularly important to consider the role of family in the treatment of OCD among children, as children may demonstrate increased dependence on their caregivers throughout treatment (Kraepel, 2016). Research on treatment for children diagnosed with OCD has suggested the family's involvement in treatment is essential for positive outcomes due to the increased availability of psychological support for the child, increased opportunities for the therapist to identify maladaptive interaction patterns, and to provide support and psychoeducation for the family (March, Mulle, & Herbel, 1994). In fact, in one of the few studies examining the long-term outcomes of CBT treatment that incorporated family members, it was reported treatment gains for children were maintained at a 36-month follow-up (Shalev et al., 2009).

Common Types of Family Responses to OCD Symptoms: Accommodation

Family responses to OCD symptoms can be seen as lying on a spectrum from antagonistic to overly accommodating, both type of responses have been suggested to have detrimental effects on treatment outcomes (Van Noppen, Rasmussen, Eisen, & McCartney,

1991). On one extreme, accommodation refers to ways some families adapt to the impact of having a child with OCD. Accommodation may encompass attempts by the family to participate in the child's rituals and compulsions or may refer to the family's modification in their patterns and routines based on OCD symptoms. Parents may display permissive and intrusive behaviors towards the child and may become overly-involved in their rituals. For example, if a child engages in the compulsive behavior of trying on different combinations of clothing until it feels "just right", a ritual which may take the child approximately an hour to complete, the parents may feel the need to plan for that extra hour it may take the child to be ready. The parents are accommodating to the child's compulsion by allotting the time necessary for the child to complete the ritual. As a result of accommodation, the child's course of OCD may be impacted by parental responses (Van Noppen et al., 1991). Although the stress of rushing the child, and potentially being late for daily tasks is minimized, accommodation may be reinforcing and maintaining the child's compulsive behaviors.

On the opposite end of the spectrum are families that tend to respond in an antagonistic way, which consists of harsh, rigid, hostile, critical and punitive behaviors towards the child with OCD symptoms. For example, family members may detach themselves from the individual, and they may refuse to involve themselves with the individual (Van Noppen et al., 1991).

Antagonistic responses to OCD symptoms may lead to increased stress and anxiety, as a result, it may exacerbate and maintain the child's symptoms. This type of response may encourage the child to become secretive about their obsessions and compulsions (Renshaw et al., 2005). For example, if a child displays compulsive behaviors related to checking and rechecking door locks multiple times before they are able to go to sleep, the child's parents may react with anger and

criticism, and may tell the child to go to their room before their ritual is complete. As a result, this child may wait until the parents are asleep to continue the ritual of checking door locks.

Prevalence of Accommodating Behaviors

Several researchers have explored family responses to individuals with mental illness and have described those similar to accommodating and antagonistic responses. Rates of accommodating behaviors from relatives of children and adults diagnosed with OCD have been reported to range from 60% to 100%. Specifically, reports of active participation in rituals by family members range from 39% to 75%, with reports of daily participation in rituals reaching up to 25%. Moreover, accommodating behaviors relating to family members providing reassurance to the child, taking over the child's duties, and/or modifying family activities and routines have been reported to occur in 30-35% of families (Calvocoressi et al., 1995; Freeman et al., 2003; Pollock & Carter, 1999; Shafran, Ralph, & Tallis, 1995). Significantly less data has been gathered about family antagonistic response patterns, with few reports of attitudes consistent with antagonistic responses by children and family members. However, a few case studies and investigations with small sample sizes have documented the use of harsh criticism by relatives of individuals with OCD (Hafner, Gilchrist, Bowling, & Kahicy, 1981; Tynes, Salins, & Winstead, 1990). In a study investigating parental response to OCD symptoms, it was found 70% of parents in the sample displayed accommodating behaviors to symptoms, whereas 20% of the sample responded with hostility towards the individual with OCD (i.e., open anger) (Allsopp & Verduyn, 1990). A similar construct that has emerged in the literature that seems to be closely related to the family antagonistic response described by Van Noppen et al. (1991), is the subcomponent of hostility and criticism in expressed emotion, which will be further discussed in later sections.

Detrimental Effects of Accommodation

Research has suggested responses to OCD symptoms that stray away from the extreme response of harshly antagonistic and overly accommodating may contribute to positive outcomes (Van Noppen & Steketee, 2009). However, accommodation, despite the family's intention to be helpful towards the child, could contribute to negative outcomes in treatment by acting as a reinforcer to the child's irrational obsessions and compulsions. Accommodation may also reduce opportunities for the child to be exposed to the anxiety created by interrupting their rituals, which prevents the nervous system from habituating to that anxiety (Storch et al., 2008). Additionally, with parents accommodating to a child's OCD rituals, the child will be less likely to learn a feared consequence will not occur as a result of their ritual not being completed (Bipeta, Yerramilli, Pingali, Karredla, & Ali, 2013). Moreover, accommodation prevents opportunities for the development of insight, an individual's recognition that their obsessions and compulsions as excessive, unreasonable, and/or illogical. Lack of insight has been suggested to be a predictor of worse outcomes for adults and children diagnosed with OCD (Garcia et al., 2010). The individual's inability to recognize the irrationality and maladaptive nature of their obsessions and compulsion may complicate treatment as they may be less inclined to challenge these thoughts and behaviors, and may be less motivated to seek and engage in treatment (Storch et al., 2008). Storch et al. (2008) found an association between low levels of insight in pediatric patients with OCD and higher levels of symptom severity, parent-rated functional impairment, and higher levels of family accommodation. Poor insight was also associated with lower levels of intellectual functioning and low levels of perceived control over the child's own environment. In fact, it has been suggested parents of children with low insight choose to engage in accommodating behaviors due to the frustrations of not being able to reason and use logic with

their children to help them manage OCD symptoms, perpetuating the vicious cycle of confirming the irrational beliefs and maintaining the limited insight (Storch et al., 2008).

An important area of consideration in the context of family accommodating behaviors is the possibility for family members to be inconsistent in their accommodating responses. For example, a child's mother may react to their symptoms with understanding, sympathy, and may accommodate to the child's rituals with the intent to reduce the child's anxiety. On the other hand, the child's father may react with criticism, and may refuse to accommodate to rituals. As a result, the child's siblings may fluctuate in the ways they react to the child's rituals due to observing the different response styles of their parents. In this example, the family unit might experience confusion, increased anxiety, and increased stress, which may complicate treatment. Individualized family factors, such as inconsistencies in accommodation, may serve to guide treatment goals and family interventions (Koujalgi, 2006).

Measures of Accommodation

Parental accommodating responses towards a child's obsessions and compulsions can be measured using the Family Accommodating Scale (FAS, Calvocoressi et al., 1999). The FAS is a 13-item questionnaire aimed at assessing the degree of family accommodation within the last month, and assesses the level of impairment experienced by family members and by the affected individuals as a result of accommodating behaviors. The relatives of the affected individuals are first asked to report on the observed OCD symptoms of the child. Then, relatives are asked to answer questions regarding accommodating behaviors. All items are scored on Likert 5-point scale, and includes questions about caregivers' and other relatives' level of reassurance regarding nature of obsessions, avoidance of words/actions that might be a trigger, facilitating behaviors for child's avoidance, facilitative behaviors in completing rituals, active participation in rituals,

helping the child solve daily problems and tasks, and modification of daily activities to accommodate the child. Sample questions include: “How often did you provide items for the patient’s compulsions?”, “Has the patient become distressed/anxious assistance has not been provided? To what degree?”. The FAS has been found to have adequate internal consistency (e.g., $\alpha = .76$), and good interrater reliability on individual items, with correlation coefficients ranging from .72 to 1.0 (Flessner et al., 2009; Calvocoressi et al., 1999).

Limitations to this instrument include concerns about test-retest reliability. Calvocoressi et al. (1999) reported the extent to which family members engage in accommodating behaviors may fluctuate over time. As a result, changes in scores may reflect an actual change in family accommodating behaviors, rather than reflecting an instability within the instrument. Although this instrument seems to provide clinicians and researchers with a useful starting point of potential family influences on a child’s OCD symptoms and insight into problematic areas that may need attention, more longitudinal research is needed on the individual and family factors that might influence changes in accommodation over time (Calvocoressi et al., 1999).

Common Types of Family Responses to OCD Symptoms: Expressed Emotion

Expressed Emotion refers to the emotions and attitudes family members express toward a family member with a mental health disorder, which have been suggested to have a detrimental effect on the child’s treatment outcomes (Peris & Miklowitz, 2015). Research has suggested families with individuals affected by mental illness display high levels of expressed emotion, which can be manifested as three separate components: emotional over-involvement by family members, criticism of the individual with a mental disorder by family members, and hostility towards the individual with a mental disorder by family members. The presence of these

components indicates someone high in expressed emotion, and an absence of these components indicates someone low in expressed emotion (Hibbs, Hamburger, Kruesi, & Lenane, 1992).

Several aspects of expressed emotion are distinct from other measures of family functioning due to its focus on attitudes and emotional reactions of caregivers, rather than their beliefs about parenting, levels of stress and parenting practices (Peris & Miklowitz, 2015). Thus, the emphasis on the impact of expressed emotion is on day-to-day patterns of interactions between the individual and the caregiver, potential interactions that might be aversive and stressful to both parties, how families respond to the affected individual, and how they emotionally reorganize themselves around the individual's symptoms, with the belief that these interactions and patterns have implications for the family's and individual's well-being (Peris & Miklowitz, 2015).

Components of Expressed Emotion

Hostility. Hostile attitudes from family members in the context of expressed emotion can be categorized as negative attitudes expressed by a family member toward the individual with a mental illness. This construct is similar to an antagonistic response style to individual's OCD symptoms that was previously reviewed, and is often used interchangeably in the literature. Both antagonistic attitudes and hostile attitudes may include acts of blaming the individual for their mental illness, with the perception that the individual has control over their illness and is acting in a selfish manner by not improving, and relatives may hold the individual accountable for negative incidents that may occur as a result of their symptoms. Hostility may make it difficult for the individual to problem-solve with family members, as their mental illness may often be appointed as the cause of all problems (Brewin, MacCarthy, Duda, & Vaughn, 1991). For example, a child experiences obsessions and compulsions relating to checking and rechecking

the locks around the house to make sure they feel safe, a ritual that may take several minutes to hours for the child to feel “just right” about. The child’s guardian feels frustrated with the child’s compulsions as it often makes them late for school and appointments, so the guardian responds by saying to the child “Do you have to do that every time we leave the house”, “You are always making us late with this nonsense”, “You can just choose to not check the locks, it’s not that difficult”. As a result, the child may be less likely to process their feelings and emotions with the caregiver, they may experience more stress and anxiety about their OCD symptoms and about asking for support.

Criticism. Criticism in the context of expressed emotion refers to a combination of negative comments, negative attitudes, and/or expression of dissatisfaction about the individual with a mental illness. It is similar to the hostile component of expressed emotion, as it also captures aspects of negative interactions between the affected individual and family member. However, it differs from hostility as family members may not view the individual as being at fault and in control of their symptoms, and thus, they may be open to the idea of other influences that can contribute to the individual’s symptoms (Peris & Miklowitz, 2015). Family members may still engage in negative criticism and hostile attitudes, but they are able to recognize the nature of the mental illness, and may be more accepting of the affected individual. In recent years, many researchers have used the criticism component of expressed emotion interchangeably, or in combination with hostility due to the large amounts of overlapping characteristics. Similar to hostility, critical attitudes can be maladaptive, as it has been suggested the parents’ use of criticism can influence the child to also engage in criticism towards their own disorder and has been found to increase a child’s checking compulsion due to an increased fear of making mistakes (Rachman & Hodgson, 1980; Bullock, Bank, & Buraston, 2002). For

example, referring back to the child who engages in checking and rechecking rituals, a parent may engage in criticism by responding to the child's rituals with feelings of frustration and anger. However, the difference is, the parents will not attribute the ritual as being under the child's control, instead, they are able to conceptualize the obsessions and compulsions as being symptoms of the child's OCD, and not a conscious choice on the child's part. Thus, they are engaging in criticism by responding to the child's rituals in a negative way, but they are also able to show some degree of understanding towards the child by not placing direct blame on the child for their disorder.

Emotional Over-Involvement. Emotional over-involvement of family members, on the other hand, refers to opinions of the caregiver in regard to their own role in the child's mental illness. Caregiver and relatives might blame themselves for the development of the mental illness, as opposed to blaming the affected individual. They may feel as if every negative event that happens in relation to their child's mental illness is their fault, as opposed to a consequence of the mental illness. They may become emotionally over-involved with the individual who has the mental illness, as they may view symptoms as being out of the individual's control. Behaviors associated with this component have been suggested to manifest as parental self-sacrificing behaviors, overprotection, lack of objectivity, and becoming emotional when discussing the child's mental illness (Przeworski et al., 2012). For example, a parent may become so distressed by their child's obsessions and compulsions, they may feel as if they need to "protect" their children at all times and believe the child cannot be left alone as they do not have the ability to help themselves and work towards managing their anxiety alone. Thus, a parent may feel the need to quit their job to feel closer and more present in the child's life, with the intent to help. As a result of parental over-involvement, the child may feel anxious and frustrated with the lack of

privacy and independence, and they may not feel capable of managing their symptoms on their own (Przeworski et al., 2012).

When parents display emotional over-involvement, they may have an open mind about the causes and factors that play into the child's mental illness, however, they may respond by becoming overbearing and overprotective, which can also result in difficulties in treatment, and in the implementation of therapeutic interventions at home (Lopez et al., 2004; Przeworski et al., 2012). It has been suggested parental over-involvement (e.g., overprotectiveness) may be associated with a child's inflated sense of responsibility (one's obsessive thoughts that indicate they are responsible for preventing harm from occurring), which could maintain and strengthen compulsive symptoms (Salkovskis et al., 1999). In addition, Rachman and Hodgson (1980) reported aspects of over-involvement by parents could play a role in increasing a child's anxiety levels and dependence on parents. In contrast, it has been argued this component of expressed emotion might not be an appropriate concept to measure maladaptive family patterns, and may not apply to children of all ages, as many behaviors described as being associated with emotional over-involvement may reflect a developmentally appropriate characteristic of the parent-child relationship, and may be adaptive and necessary (Przeworski et al., 2012; Vostanis, Nicholls, & Harrington, 1994). Additionally, there is a gap in the literature on studies examining the contributions of this component to the prediction of long-term treatment outcomes in children (Przeworski et al., 2012).

Prevalence

The research on children diagnosed with OCD and expressed emotion within families is scarce. Expressed emotion may be of importance in treatment, as family relationships have been suggested to play a large role in the maintenance of OCD and anxiety-related symptoms

(Przeworski et al., 2012). In a study exploring expressed emotion among family members towards adults diagnosed with OCD, it was reported over 40% of relatives displayed high criticism towards the affected individual, 33% displayed high hostility towards the affected individual, and 12% displayed emotional over-involvement (Chambless & Steketee, 1999). However, it is important to note this data was gathered primarily through interviews with the client's spouses, not parents. Similarly, Hibbs et al. (1991) used a Five-Minute Speech Sample (FMSS) to investigate parental expressed emotion among a sample of 49 children diagnosed with OCD and sample of 45 children with no psychiatric diagnosis. The FMSS is a 5-minute audio-recorded speech sample of a family member speaking freely about their child to the researcher or clinician. The audio sample is later coded and interpreted by the researcher for the presence or absence of the expressed emotion components. Results showed that 82% of parents were reported to be high in expressed emotion (i.e., engaged in behaviors associated with hostility, criticism, and/or over-involvement). In contrast, in the non-psychiatric sample, it was reported only 42% of parents displayed high levels of expressed emotion. Moreover, it was reported 71-74% of mothers and 46-47% of fathers within the clinical sample showed high expressed emotion, when compared to 24-31% of fathers and 13-22% of mothers in the non-clinical sample.

In contrast, Przeworski et al. (2012) reported data from speech samples, indicating high emotion expression was largely driven by the criticism component alone (researchers combined the criticism and hostility component), and reported low rates of emotional over-involvement between dyads of mothers and children with OCD ($N = 62$, ages 7-17). Researchers suggested this difference may be due to limitations of extending the emotional over-involvement concept from adult patients to pediatric patients, as behaviors such as overprotection, expression of

strong feelings of caring, willingness to do anything for the child, and self-sacrificing behaviors may be developmentally appropriate for parents to exhibit towards their children. Furthermore, other studies have reported emotional over-involvement by parents could not consistently predict child psychopathology within samples and has not been internally consistent across studies (McCarty, Lau, Valeri, & Weisz, 2004; McCarty & Weisz, 2002).

Detrimental Effects of Expressed Emotion

These attitudes from family members may influence an individual's mental illness during and following treatment through their negative comments and nonverbal cues, which may increase the amount of pressure and stress the affected individual experiences (Koujalgi, 2006). Individuals with families who display high levels of expressed emotion have shown higher relapse rates and poorer treatment outcomes. In a study by Brown, Monck, Carstairs, & Wing (1962) it was reported 76% of patients with schizophrenia who were discharged from the hospital and returned to high expressed emotion homes had a relapse in symptoms within a period of 9 months, while their low expressed emotion counterparts showed a relapse rate of 28%. Negative outcomes related to high expressed emotion also seems to apply to individuals diagnosed with a variety of psychiatric disorders such as mood disorders and OCD, as studies have suggested similar trends of emotional response of family members having an impact on the maintenance of psychiatric symptoms (Brown, Birley, & Wing, 1972; Hooley, 1986; Hibbs et al., 1991).

High parental expressed emotion has been associated with poor treatment response and functional outcomes among a pediatric population undergoing ERP treatment for OCD (Peris, Yadegar, Asarnow, & Piacentini, 2013; Przeworski et al., 2012). Hibbs, Hamburger, Kruesi, & Lenane (1992) suggested these children may have a difficult time achieving and maintaining

positive gains in treatment, as they found children from families who reported high levels of expressed emotions showed higher physiological reactivity, when compared to children from families who reported low expressed emotion. These findings suggest children from families with high expressed emotion may have a difficult time coping with anxiety and lowering their distress to a manageable level. Expressed emotion in families with individuals diagnosed with OCD has also been linked to higher depressive symptom severity, and has been suggested to be a contributing factor to poor insight across several psychiatric diagnosis (Ozkiris, Essizoglu, Gulec, & Aksaray, 2015). For example, family members who show high expressed emotion towards the affected individual may overwhelm and push them into returning to their previous coping mechanism to reduce anxiety (i.e., compulsive rituals) (Koujalgi, 2006).

In one of the few long-term studies conducted by Leonard et al. (1993), children with OCD were assessed 2 to 7 years following their first assessment. Children who were treated with pharmacotherapy, and who were living in high expressed emotion households (as defined by the Five-Minute Speech Sample), were reported to show poorer global adjustment, but did not show worse OCD symptoms when compared to the low expressed emotion households. Although no clear conclusion was drawn from this study, it suggests high expressed emotion may be associated with the child's impairments in functioning, and low levels of expressed emotion in families may be associated with a child's improved functioning post-treatment.

It is important to consider intent behind the expressed emotions by parents, as it has been reported when caregivers criticize the affected individual, they do so with the intent to help the child change their obsessive-compulsive behaviors. Thus, criticism may not always reflect intent to harm (Chambless, Bryan, Aiken, Steketee, & Hooley, 1999). For example, family members with high expressed emotion scores tend to show critical and hostile attitudes and a low tolerance

for the feelings of the child, however, they may be unaware of other ways to respond to the child and may feel as if they are being helpful. They may hold the belief that the only way to help the child to make positive changes is through criticism (Hooley, 1986; Wendel, Miklowitz, Richards, & George, 2002). In addition, researchers have been interested in the affected individual's perception of expressed emotion as a predictor of worse treatment outcomes. Chambless and Steketee (1999) have suggested individuals who rated their parents as being high in criticism and hostile components were associated with higher symptom severity. These findings may suggest the affected individual's perception of negative encounters with family members may further stimulate their nervous system, which is already over-aroused due to the nature of OCD, thus, increasing their anxiety and obsessive-compulsive behaviors.

Although not specific to OCD, research has found an association between maternal levels of expressed emotion and the persistence of mood symptoms in children diagnosed with Major Depressive Disorder and Bipolar Disorder (Asarnow, Goldstein, Tompson & Guthrie, 1993; Kim & Miklowitz, 2004; Silk et al., 2009). These findings may be relevant to individuals diagnosed with OCD due to the high rates of comorbid mood symptoms among the clinical population.

Measures of Expressed Emotion

The Camberwell Family Interview (CFI) is a widely used tool to measure expressed emotion in families, in which researchers conduct a 1-2-hour semi-structured interview with family members, and assess family characteristics on five domains: Hostility, Emotional Over-Involvement, Critical Remarks, Warmth, and Positive Remarks (Rutter & Brown, 1966; Vaughn & Leff, 1976). During this semi-structured interview, only family members are asked questions about the individual diagnosed with a mental illness. This individual is not included during the interview. The interview is either video or audio recorded, and then watched or listened by a

trained clinician who carefully observes the reactions and answers by family members, and codes the attitudes being expressed, and phrases being said (Calam & Peters, 2006).

This semi-structured interview questions, procedures and coding schemes may vary based on the ages of the child, to make the interview developmentally appropriate, however, the interview still focuses on the individual's recovery process, onset of mental illness, nature of symptoms, problems experienced by the family, interpersonal relationships, and other factors relating to the family member's experience with the affected individual (Calam & Peters, 2006; Koujalgi, 2006). The level of expressed emotion outcome is determined by the number of critical, hostile and over-involvement comments made by the family member interviewed about the affected individual, it is transformed into scores based on frequency count, or ratings on a Likert scale for each of the domains measured (Hooley & Hoffman, 1999). For example, the Criticism scale is comprised of a frequency count of comments of critical nature and content of such statements (e.g., "She acts like a spoiled brat with me"). Hostility is often comprised of comments relating to a dislike and/or rejection of the child (e.g., "I leave her with her grandmother because I can't be near her anymore"). Emotional over-involvement is comprised of observed behaviors or expressed comments of excessive concern, and statements that demonstrate exaggerated emotional responses towards the child, self-sacrificing behaviors, and over-protection (Calam & Peters, 2006). The CFI has been reported to have adequate interrater reliability across studies, ($ICC = 0.74-0.91$), however, more information is needed regarding further validity and reliability indexes (Leeb, Hahlweg, & Goldstein, 1991; Leeb, Mundt, & Fiedler, 1993; Shimodera, Mino, & Inoue, 1999).

Although the CFI is considered by researchers as the gold standard measure of expressed emotion in psychological research, it is highly time-consuming, and individuals are required to

undergo training to code and interpret the data and findings. Due to these difficulties, researchers have since aimed at creating abbreviated versions of the CFI such as the Five-Minute Speech Sample (FMSS), which consists of a five-minute audio recording sample of a family member speaking freely and uninterruptedly about the individual with the mental illness. The FMSS takes approximately 15 minutes to code, and is rated utilizing the Criticism and Emotional Over-Involvement dimensions, as characteristics of the Hostility component have been incorporated within the Criticism component for this measure (Rein et al., 2006). The FMSS is generally rated among the following scales: initial statement (positive, neutral, negative), critical comments (frequency count), nature/quality of relationship (positive, neutral, negative), emotional display (presence/absence), and evidence of emotional over-involvement behaviors. One study found an overall agreement of 89.7% of the FMSS and CFI measures, with the FMSS underestimating scores of the CFI in up to 30% of the sample (Leeb et al., 1991). Although findings relating to the FMSS's reliability, validity and predictive power seem to be inconsistent across studies, it is still preferred by many researchers over the CFI, due to it being less time consuming, and needing less training to administer (Mueser, Bellack, & Wade, 1992; Calam & Peters 2006; Rein et al., 2006). In addition, it is important to consider limitations concerning this instrument's short interview with family members, as it may not show a clear and complete representation of the family member's views about the child, and their patterns of interaction (Leeb et al., 1991).

Incorporating Family Factors in the Traditional Treatment for OCD

Based on the literature, families with children diagnosed with OCD seem to engage in behaviors that can influence and maintain the child's symptoms and can have a negative effect on family distress. These behaviors seem to be in direct conflict with the current treatment indications for symptom reduction and management in CBT (i.e., accommodating behaviors

interfering with exposure-response prevention exercises). Thus, it can be beneficial for the therapist to consider interventions aimed at understanding the family's patterns of interactions and communication, and to focus on reducing maladaptive patterns among family members (Storch et al., 2007).

CBT and ERP techniques have been used as the gold standard of treatment for individuals diagnosed with OCD. For children and adults experiencing moderate to severe symptoms, it has been suggested a combination of CBT and pharmacotherapy may be beneficial (Geller & March, 2012). However, research shows a significant number of children fail to respond to CBT and ERP (i.e., response rates of 22-47%, McGuire et al., 2015). In addition, not enough information has been reported about the maintenance of gains following treatment for the pediatric population, although relapse rates for the adult population has been reported to reach up to 50% following termination of treatment (Van Noppen, Van Balkom, de Haan, & Van Dyck, 2005). Given the aforementioned contribution of family responses and interactions to the prognosis of OCD with children, researchers have explored ways clinicians can include family members in treatment, thereby combining various frameworks (i.e., Cognitive-Behavioral Therapy) with a Family Systems perspective (Franklin & Foa, 2002; Herren, Freeman, & Garcia, 2016).

Family Therapy has been shown to be an effective option for clinicians in addressing conflict within families that are complicated by the presence of a psychiatric disorder (Hibbs, Hamburger, Kruesi, Lenane, 1993). It has been suggested clinicians should consider the developmental limitations young children show while in treatment (i.e., low insight, dependence on others), and should encourage parental involvement while utilizing the parent's skills and strengths in treatment (Herren et al., 2016). Numerous studies have demonstrated benefits in

treatment outcomes that include family members (Dalton, 1983; Fine 1973; Hafner et al., 1981). In a study by Emmelkamp and Delange (1983), researchers compared treatment outcomes for clients undergoing 8 sessions of behavioral treatment for OCD, one group utilized family members as co-therapists, while the other group did not. The interventions utilized by therapists included psychoeducation, conflict-resolution and effective communication skills training. Results showed the group utilizing family members in treatment showed improvements in symptom reduction at posttest, although they did not show improvements at follow-up. Similarly, Mehta (1990) studied the effects of including family members (equal numbers of spouses and parents) in the treatments of 30 clients diagnosed with OCD, which included 24 sessions of CBT and ERP exercises. Results showed family involvement was associated with greater client improvements at posttest and at follow up in OCD symptom severity, reported mood and anxiety, and improvements in functional and occupational domains (i.e., improved grades in school).

Incorporating Treatment on Accommodation

In a meta-analysis exploring the effectiveness of including family members in the treatment of OCD, Thompson-Hollands, Edson, Tompson, and Corner (2014) analyzed 29 studies with pediatric and adult samples, they found that the inclusion of family members in treatment was associated with greater improvements in symptom severity ($d = 1.68$, $SE = 0.24$), and global functioning ($d = 0.98$, $SE = 0.14$) across different samples and a range of treatment protocols, which included the CBT framework. Specifically, it was reported treatment protocols that addressed family accommodation was associated with larger effects, when compared to treatment protocols that did not address this construct.

Before beginning treatment, it is important for the clinician to have adequate knowledge about accommodating behaviors within families, and competence in assessing family members' accommodating behaviors in response to the child's OCD symptoms. Clinicians may utilize the Family Accommodating Scales (FAS) if they have the appropriate training or could choose to ask open questions specifically aimed at obtaining more information about the child's rituals, and how each family member usually responds to the rituals. For example, if a child is presenting with obsessions relating to violent thoughts and beliefs they will cause harm to others, clinicians should explore the specific contents of the obsession, and explore the ways the family members and client usually respond to the obsessions and compulsions. If the family is engaging in accommodating behaviors, the clinician should focus on exploring how the family is accommodating (i.e., by removing any dangerous or sharp objects from the household or providing excessive reassurance that they will not cause harm) (Storch et al., 2007).

It is important for clinicians to consider reports from the client and family members separately, as it has been suggested some discrepancy is common between parents' and child's reports of a child's OCD symptoms and impairment (Piacentini et al., 2003). Storch et al. (2003) utilized a sample of 57 children and adolescents ages 7 to 17 years old ($M = 12.99$) and their parents, it was found child reports of their own functional impairments was not strongly related to parent reports of the child's impairments. One explanation for this discrepancy argued children with minimal OCD symptoms may experience greater distress and impairment due to the efforts to hide or lie about their symptoms from others, and efforts to appear all right. Children experiencing more severe symptoms may experience less distress due to family members efforts to minimize their anxiety and stress levels by accommodating to their rituals,

which may result in the child not having an awareness on the extent of their impairments (Piacentini et al., 2003).

By obtaining more information about the client's and the family member's experience with accommodating behaviors, the clinician could tailor treatment to the individual by providing psychoeducation in areas the family members and client seem to be lacking in knowledge, and by implementing individualized interventions aimed at reducing accommodation. For example, referring back to the child with obsessions about violence and fears about harming others, the clinician may first assess for suicidal/homicidal ideations, then they may choose to begin the ERP process, while providing education to the family about the goals of ERP techniques, and the importance of implementing these techniques at home effectively (Storch et al., 2007). Moreover, the clinician may want to educate the family about limiting excessive reassurance aimed at reducing the child's anxiety, as research has suggested it is helpful for the child to receive emotional support, however, excessive reassurance can have implications on the effectiveness of behavioral interventions aimed at exposing the child to anxiety provoking situations (Mehta, 1990; Steketee, 1993).

The main goal for clinicians addressing accommodation in treatment is to help family members to change their permissive behaviors, and to engage in actions that will be in opposition to the behaviors seen in the context of accommodation. Some positive changes may include helping family members to achieve a healthy balance between acting in a supportive manner while providing enough structure and challenges for the child during treatment, helping the parent to encourage their child to independently face their anxiety and obsessions, and to help parents promote better coping and guidance to their child in overcoming their obsessive-compulsive symptoms (Lebowitz, 2018).

Incorporating Treatment on Expressed Emotion

The literature on expressed emotion in the context of family responses to a child's OCD symptoms suggests that a significant amount of families engage in these types of displays of emotion and that these negative family dynamics have been associated with worse treatment outcomes and difficulties in symptom management (Steketee & Van Noppen, 2003). This highlights the need for a focus on incorporating family interventions in treatment aimed at reducing the amount of expressed emotion in family members. Although it is known that expressed emotion components of hostility, criticism and emotional over-involvement may complicate treatment outcomes for the affected family member by increasing their anxiety and stress levels, few interventions directly targeting these dynamics have been the focus of research (Peris & Miklowitz, 2015).

It has been suggested that when families are able to cope adaptively to stressors relating to helping a family member manage OCD symptoms, lower levels of negativity and emotionality may be exhibited in daily family interactions (Steketee & Van Noppen, 2003). Specifically, research on family-based interventions has proposed problem-solving skills training for both the client and their family members can lead to lower levels of expressed emotion, as families may learn to communicate effectively by learning to work together to resolve issues relating to the child's OCD symptoms. In addition to problem-solving skills training, clinicians have been encouraged to assess for specific types of expressed emotion displays (i.e., criticism/hostility or emotional over-involvement), and to implement behavioral interventions aimed at reducing such displays of expressed emotion (Steketee, Van Noppen, Lam, & Shapiro, 1998). For example, when family members view the child's OCD symptoms as being outside of the child's control, family members may respond by becoming emotionally over-involved with the child or

frustrated and angry. Thus, the clinician could aim their interventions at reducing the family member's maladaptive ways of coping by increasing their ability to utilize problem-solving skills and by providing psychoeducation about the nature of OCD (Steketee & Van Noppen, 2003).

Additional family interventions that have been suggested to lower family members' expressed emotion levels include the emphasis on empathic listening skills training and effective communication training (Steketee & Van Noppen, 2003). In fact, research has shown associations between faulty family communication patterns and mental illness. Specifically, Koujalgi (2006) found a significant difference between the communication patterns between families with an individual diagnosed with OCD and families with no psychopathology ($p = 0.000$), such that families with a member diagnosed with OCD demonstrated poorer levels of effective communication, conflict resolution and more negativity among family members. Thus, it is important for the treating clinician to be able to assess the family members' areas of difficulty in communicating with one another, and to encourage active problem-solving and emotional support in family sessions (Chambless & Steketee, 1999).

In a study by Thornicroft, Colson, and Marks (1991), researchers focused on teaching family members how to assist in the treatment of patients in an inpatient psychiatric facility who were diagnosed OCD ($N = 45$). The treatment modality included CBT and ERP strategies, self-control, and social skills training. The patient's family members were trained in monitoring the patient's behaviors and were trained in encouraging the patient's self-exposure in ERP exercises in a supportive, non-critical manner, thus, reducing any family member's display of criticism and hostility (i.e., teaching parents to be supportive and encouraging towards the child, using praise for approaching and coping with anxiety). Findings indicated a 45% decrease in the patient's OCD symptoms at discharge, and a 60% decrease in symptoms at a 6-month follow-up.

It is important to consider barriers clinicians may face when assessing families for expressed emotion. The Camberwell Family interview mentioned previously has been widely used in expressed emotion research. However, it may not always be feasible for treating clinicians due to its time-consuming and training requirements. Its shorter alternative, the Five-Minute Speech Inventory may also not be convenient to utilize outside of a research setting. Thus, more research is needed to develop a self-report and parent-report measure of expressed emotion for clinicians to utilize specifically in a treatment setting, while keeping in mind limitations relating to time and administration.

Case Study

A following case-study by Herren, Freeman, & Garcia (2016) can illustrate how family could be included in the traditional OCD treatment (i.e., ERP) for a pediatric client to promote therapeutic progress. They reported a case of a 7-year-old client diagnosed with OCD who received ERP along with family involvement. Treatment was guided by three principles: reducing accommodation by focusing on family involvement, understanding the relation between the child's obsession and compulsions (i.e., clarifying themes of core obsessions and clarifying specific compulsions associated with the obsession), and creating conditions within the child's environment for habituation during exposure and positive interactions with family members. The client presented with obsessions that included thoughts of contamination, harm towards self and others, sexual thoughts, and scrupulosity (i.e., thoughts about breaking rules/being wrong). The client's family described the client's compulsions as frequent and distressing, which included washing hands, cleaning rituals around the home, reassurance seeking, confessing, avoidance, and checking behaviors. It was also reported the client's symptoms were impairing his ability to succeed in school, and were causing impairments in the family relationships.

The parents reported the client's reassurance seeking was among one of the most stressful compulsions, as it occurred frequently, and the client would become distressed if the parents did not provide reassurance. The family's patterns of accommodation to the child's rituals was conceptualized as a maintenance factor of his OCD symptoms, as it prevented the child from becoming exposed to the anxiety caused by his obsessions. The clinician focused on assessing family accommodation and negative family interactions throughout treatment, and discovered the parents were providing the client with reassurance frequently, which provided the client with relief from his anxiety relating to his obsessions. Additionally, the parents reported they had difficulties managing the client's distress when they would interrupt his rituals. The child's need to seek reassurance resulted in the parents' continuous involvement in the child's compulsive rituals, such that they would accommodate to the child's needs by providing words of reassurance when requested by the child. Throughout treatment, the therapist focused on helping the parents to engage in behaviors that opposed accommodation. Specifically, the parents and child were encouraged to collaboratively discuss ways in which they could reduce accommodation in their daily interactions. The therapist's goal was to encourage parental support towards the child, such that, the parents would be able to display validation of the child's experience and difficulties, *and* would demonstrate confidence in the child's ability to manage and tolerate emotional discomfort (Lebowitz, 2018).

The client's course of treatment included 24 sessions of family-based cognitive-behavioral therapy over a 10-month period, with the primary technique being ERP to focus on the natural reduction of the client's anxiety while discontinuing the use of any other compulsions by the client or accommodation by family members to reduce his OCD related anxiety. Sessions 1-2 focused on providing the client and family with psychoeducation about the nature of the

disorder, and about the rationale behind the CBT/ERP treatment approaches. While talking to the client, the therapist used developmentally appropriate terms when providing psychoeducation, and focused on externalizing the client's OCD to remove any feelings of blame or fault the client may have felt. For example, the therapist used terms such as "brain hiccup", ERP as a means to "boss back" OCD, asking the client to draw and name his OCD, introducing a fear thermometer to discuss different scenarios that elicited anxiety, and by utilizing various metaphors to explain ERP (i.e., practicing soccer and getting better overtime).

The therapist also assessed for any components of expressed emotion throughout the first few sessions, specifically, the therapist focused on asking open questions about the parents' understanding about the illness, and about their views on the child's control over the illness. As it has been shown when parents perceive the child as being in full control of their mental illness, this may lead to hostile interactions as the parents may believe the child is "choosing" to not get better. The therapist assessed for emotional over-involvement by asking open questions about any blame or guilt the parents might have felt in relation to their child's illness. When parents feel the child's mental illness is in complete control of the child and view the child as helpless, this can lead the parents to become over-bearing, it may increase stress for the family, and may lead the child to experience a decrease in their self-confidence and self-efficacy (Koujalgi, 2016). Additionally, the therapist focused on educating the family and client about the importance of family collaboration for the effectiveness of treatment. Homework was given to include the parents in treatment by encouraging them to monitor their child's symptoms and practice externalizing his OCD symptoms.

Sessions 3-8 focused on introducing exposure techniques and targeting the fears the child deemed as less anxiety provoking. The exposure exercises targeting the client's fear of

contamination included touching inside a garbage can without asking for parental reassurance or washing hands, touching his parents food with “dirty hands” without confessing, and eating a piece of candy that had touched a “dirty” surface without seeking reassurance or confessing. A crucial piece to this stage in treatment was reducing the parent’s involvement in the client’s rituals when the client would come to them to seek reassurance and confess during the exposure exercises. Thus, the parents were educated on effective ways to respond to the client’s compulsions, such as being able to help the client by labeling “OCD” during unexpected triggers (i.e., “This is the OCD trying to boss you around”), which may demonstrate effective ways to lessen any parental blame and hostility towards the child in the context of expressed emotion, by externalizing the child’s symptoms (Steketee et al., 1998). In this stage, engaging in behaviors that opposed accommodation (i.e., not providing reassurance), involved helping the parents to manage their own emotional discomfort about allowing their child to face anxiety for longer periods of time, to act in a supportive manner through validating the client’s experience while encouraging the child to self-regulate and increasing the child’s self-confidence (Lebowitz, 2018).

The therapist focused on teaching ways to validate the client’s emotional experience (i.e., “I can tell you’re feeling upset right now”), and how to encourage the client to approach anxiety provoking triggers (i.e., “Let’s show OCD who’s boss”). These types of positive displays of affection and support have been shown to be associated with lower levels of expressed emotion and positive outcomes (Thornicroft, Colson, & Marks, 1991). The parents were also educated on ways to increase the client’s anxiety during exposure when necessary (i.e., increasing his fear of being wrong by stating “That answer could be wrong”). Through continuously allowing the child to experience anxiety, and by refraining from providing reassurance, the parents and child slowly

became accustomed to a new pattern of positive and effective interactions when responding to the child's OCD symptoms. Additionally, the therapist would model positive behaviors to the parents in session by providing positive attention and praise to the child, externalizing OCD, and encouraging the child to utilize positive self-talk (i.e., "I can do this"). As the client showed signs of habituation to fears at home and in session, such as taking less time to reduce his anxiety when the compulsion was prevented, the therapist and family would focus on the next feared core obsession on the fear thermometer hierarchy.

An important development to consider in utilizing anxiety provoking techniques in treatment, such as ERP, is the possibility for the child to feel discouraged and overwhelmed. During session 7 the client reported no longer wanting to continue treatment by stating "It's too hard". The therapist focused their next session on validating and processing the client's feelings, thereby, modeling effective ways for the parents to manage the client's frustrations. Teaching parent to effectively communicate and cope with their child's frustration may result in more positive interactions between family members, lower levels of frustration, and lower levels of hostility among family members (Peris & Miklowitz, 2015). The therapist and family decided to implement a rewards systems to help the client become more motivated to continue engaging in treatment. This event highlights the importance of assessing the client's distress level throughout the length of treatment, and being able to collaborate with the family in finding ways to motivate and reward the client for positive engagement.

Sessions 9-16 focused on continuing to work upward on the fear thermometer hierarchy, reviewing the mechanisms and rationale behind ERP, and normalizing the client's sensitive OCD obsessions about breaking rules and sexual content. Exposure exercises used in session included writing down "forbidden" swear words in session and saying the swear words out loud without

getting reassurance from the parents or confessing. The client and family were also instructed to continue the exposure exercises at home, and to notice and report progress and barriers to the therapist. The client showed continuous progress by being able to habituate to harder and more anxiety provoking situations, family members were continuously reporting less time needed to complete homework exposure assignments, and reporting the obsessive thoughts were causing less anxiety as the weeks progressed. Thus, the therapist and family agreed to move their sessions to once every other week.

The final 17-24 weeks focused on completing the hardest exposure exercises, discussing the client's gains in treatment, and ways to maintain the gains and prevent relapse. The role of the family prior to termination is crucial to the maintenance of positive gains (Herren, Freeman & Garcia, 2016). The therapist focused on educating the family and client about the chronic nature of OCD, the importance of continuing to implement ERP exercises in the child's natural environment, and educating the parents about the possibility of re-emergence of the child's OCD symptoms in times of high stress (i.e., starting a new school year). In addition, it is crucial to educate the parents of family factors that could contribute to relapse. As the literature has suggested high levels of expressed emotion are associated with poor treatment outcomes among individuals diagnosed with OCD, it is important to reiterate to parents the role of effective communication, problem-solving skills, encouragement, support, and the implementation of healthy coping skills by all family members in the maintenance of gains following treatment (Peris & Miklowitz, 2015). Interventions the therapist used in session while preparing the parents and child for termination included encouraging them to collaborate with the child while building a new fear thermometer hierarchy as a new obsessive fear had recently emerged, and creating their own exposure exercises to manage the new obsession. This intervention allowed for the

therapist to increase the family's confidence in their abilities to help the child manage their OCD, and proved to be an opportunity to reinforce the family's use of effective communication and problem-solving skills. The final "graduation" session included a review of the skills learned over the course of treatment and a celebration of the client's gains.

Following termination, researchers reported the client demonstrated a significant decrease in OCD symptoms, with symptoms reducing from moderate intensity at the start of treatment, to the lower range of mild at a 1-month follow-up appointment. In addition, he showed improvements in the amount of time he spent completing his homework assignments, from multiple hours to 30 minutes, which resulted in improved functioning in school. The reports of his symptom reduction reflect an overall improvement and effective response to treatment (Herren et al., 2016). This case-study highlights important features and considerations clinicians should be aware of when working with children diagnosed with OCD. In the context of including family members in treatment, it demonstrates the importance of family involvement in the assessment process, delivery of treatment process, and termination process of treatment. Specifically, it demonstrates the effectiveness of training parents to act as coaches for their children in their home, while acknowledging their role in motivating, reinforcing, and encouraging the child to engage in exposure exercises at home (Herren et al., 2016).

Additional Psychological Interventions for the Family with Children with OCD:

Psychoeducation & Social Support

When families bring their children for treatment, it has been argued the initial role of the therapist is to consider the need to educate the client and family members on the disorder, as research has shown parents can benefit from the therapist's sharing information on their child's behaviors, and guidance on how to better help their child (i.e., avoiding punitive measures and

avoiding enabling responses rituals). It may also be helpful for therapists to suggest psychoeducational articles and books for family members on the process of treatment, expectations about treatment outcomes, potential stressors that may arise during treatment (i.e., increased anxiety during ERP exercises), and to have discussions about healthy ways family members can cope with frustrations that may arise (Rapoport & Inoff-Germain, 2000; Steketee & Van Noppen, 2003). Psychoeducation about the biological, psychological and psychosocial factors of OCD seems to be beneficial in establishing a common understanding about the nature of OCD, it can be helpful in clarifying misconceptions the child and family might have about the disorder and can be used to highlight the importance of family involvement in treatment. In addition, it has been recommended that therapists provide psychoeducation about the detrimental effects of accommodation and expressed emotion, and to educate family members on the rationale for any interventions implemented (i.e., behavioral contracting with family members, determining the sources from hostile/critical attitudes, correcting blaming and faulty assumptions about the causes of OCD symptoms). For example, providing information about the rationale and importance of compliance in exposure exercises to the family and client has been related to lower post-treatment OCD symptom severity in adult samples, which may be generalizable to the pediatric population (Skarphedinsson & Weidle, 2017). Moreover, psychoeducational interventions in treatment have been suggested to have positive effects by allowing the therapist, client, and family members to collaboratively build an understanding about the client's symptoms and goals of treatment, and can be used to emphasize the importance of effective communication and teamwork for all parties involved in treatment (Skarphedinsson & Weidle, 2017).

Many researchers have suggested psychoeducational groups for the client and for family members may have a positive influence in treatment, as psychoeducational groups may allow family members to discuss the impacts of OCD on the family with someone other than a therapist (Marks, Hogson, & Rachman, 1975). It has been suggested the psychological support component of group and individual settings are important for treatment effectiveness in managing family distress and family dysfunctional impairments. By providing additional sources of support for relatives to manage their frustrations, it may allow for opportunities to practice effective communication skills, and allows the opportunity for reducing the unhealthy expression of anger by family members (Steketee & Van Noppen, 2003). Recent studies have advocated for time-limited family support groups that include information about OCD diagnosis, assessment, theories of OCD etiology, available treatment modalities (i.e., CBT treatments, medication treatments), opportunities for the sharing and processing of feelings by group members, and opportunities to learn coping strategies to manage familial stress and OCD symptoms (Steketee & Van Noppen, 2003).

Although studies on the outcome of psychoeducational groups for families and individuals with OCD is scarce, a meta-analysis by Pozza and Dettore (2017) utilizing 6 studies ($N = 327$), has suggested group therapy has been associated with high family and patient satisfaction, no difference in drop-out rates when compared to individual therapy, and no difference in post-treatment outcomes for OCD, depression, and anxiety symptoms when compared to individual treatment settings. Similarly, researchers exploring the effectiveness of group treatment settings that incorporated psychoeducation for youth and family members about the implementation of ERP exercises, and incorporated a bi-weekly parent support group focusing on psychoeducation and ways to cope with their children, found among a sample of 41

patients (ages 6-17 years old), group-based treatment was associated with a significant reduction in OCD symptom severity and depressive symptoms (Olino et al., 2011).

Similarly, Gruner, Neziroglu, & McKay (2001) studied outcomes for an 8-week psychoeducational group designed for individuals diagnosed with OCD ($N = 28$) and their relatives. Participants who had terminated individual CBT treatment were randomly assigned to have their relatives participate in group. Results showed individuals with relatives participating in treatment experienced a decrease in OCD symptoms (27.0 to 18.4 on the Yale-Brown Obsessive-Compulsive Scale [YBOCS]), and a reduction in depressive symptoms (24.1 to 21.3 on the YBOCS). Treatment gains were reported to be maintained at a 1-month follow-up. The YBOCS is an interview-based rating scale measuring OCD symptom severity, and is used to assess treatment outcomes. This measure has been shown to have high internal consistency and interrater reliability. These findings may indicate a group treatment setting may be effective in conjunction with individual treatment settings. In addition, it may provide an additional source of support for families and children while they are in treatment. Although high participant satisfaction has been reported across various studies, more research is needed to determine long-term outcomes of group therapy settings for families and children diagnosed with OCD (Steketee & Van Noppen, 2003).

Ethical and Professional Considerations

The American Counseling Association (ACA) Code of Ethics (American Counseling Association [ACA], 2014) provides guidelines for appropriate behaviors and conduct for professionals working in the field of counseling. The ACA provides information on how to ethically navigate issues such as the counseling-client relationship, confidentiality and privacy concerns, professional responsibility, competence, boundary issues, training, assessment and

treatment planning. The ACA operates under five important principles: Autonomy refers to one's independence and right to make their own decisions. Justice refers to treating each individual with fairness. Beneficence refers to doing what is in the best interest for each client. Nonmaleficence refers to doing no harm. And Fidelity refers to conducting one's work with fidelity, faithfulness, and honor (ACA, 2014).

Unique ethical considerations should be discussed when working with children and their families in a mental health setting. Clinicians must have competency and knowledge about the pediatric population and treatment modality they will be implementing, such that clinicians can provide the necessary information for the family and child in accurate and understandable terms. Clinicians should strive to practice self-awareness and seek supervision as needed, as working with children may elicit emotional reactions and increased stress that could influence treatment. In addition, working with children and their families may elicit challenges with maintaining appropriate boundaries, such that, clinicians should be aware of their own possible boundary violations, and boundary violations by the child and family members. Thus, clinicians should be open to having discussions about these issues with clients and family members when necessary.

Although CBT and ERP exercises have been shown to be the gold standard of treatment for children and adults diagnosed with OCD, there seems to be a lack of clarity and guidelines on how to ethically navigate certain issues that may arise, resulting in increased challenges for clinicians and concerns regarding the safe and effective implementation of ERP techniques (Gola, Beidas, Antinoro-Burke, Kratz, & Fingerhut, 2016). Specifically, there seems to be concerns about the safety of utilizing ERP with the pediatric population, resulting in the underutilization of this treatment modality for children diagnosed with OCD and other anxiety disorders (Gola et al, 2016). Many therapists may be reluctant to utilize ERP due to the need to

evoke stress and discomfort on the child, as distress is a crucial component in ERP for the habituation process to occur. This evocation of distress may be perceived as going against the clinician's ethical duty to do no harm and to reduce a client's distress while in treatment (Gunter & Whittall, 2013; Olatunji, Deacon, & Abramowitz, 2009). Overall, it has been reported many therapists hold faulty beliefs that conducting ERP exercises in children may hold more risks than benefits, may lead to high attrition rates, may increase symptom severity, and may not generalize to the child's natural environment (Olatunji et al., 2009). Moreover, utilizing ERP techniques with the pediatric population calls for unique ethical considerations because this population is more vulnerable than their adult counterparts, most children are not self-referred when they seek treatment, and children may not be developmentally mature enough to understand the rationale behind ERP exercises (Gola et al., 2016). It is important for the treating clinician to emphasize the child's active participation during this process. Clinicians may check in with the child to assess their understanding of informed consent, the overall treatment process, and to encourage the child to voice any questions and concerns they may have (Gola et al., 2016).

The ACA Code of Ethics emphasizes competency standards for mental health professionals, such that clinicians need to have an awareness of populations and presenting issues that are within their scopes of knowledge and experience (ACA, 2014; Gola et al., 2016). A common challenge in the implementation of ERP techniques is balancing between not providing the client with enough distress during these exercises due to the therapist's own uncomfortable feelings, and challenging the client too much, or too soon, which may result in the client engaging in compulsions and/or other safety behaviors, or avoiding the ERP exercise all together. It has been suggested that clinicians should maintain a calm and accepting stance, and

should be willing to discuss and modify aspects of the exposure process with the client and family members as needed.

The standard of competency also calls for the emotional competency of clinicians, such that clinicians need to become aware of their own emotional limits and tolerance when working with clients, practice regular self-care, and become aware of their own biases that may affect treatment (Pope & Brown, 1996). The concept of emotional competence is especially salient when working with children, as exposure exercises will cause increased distress in clients, as a result, may cause secondary distress on the therapist. Therapists are able to better serve their clients when they are able to recognize their own difficulties, and they could work towards finding ways to cope with their difficulties by seeking supervision and consulting with colleagues (Olatunji et al, 2009).

When working with children and families, boundary violations is a frequently mentioned ethical issue reported by mental health professionals (Pope & Vetter, 1992). Boundary violations occur when aspects of the professional relationship between the clinician and client are disrupted, such that relationship deviates from the basic goals of therapy and treatment, and ceases to be therapeutic. These boundary violations may manifest as social, physical, and psychological disruptions within the relationship between the clinician and the client (Pope & Keith-Spiegel, 2008). It has been suggested not all boundary crossings are considered to be boundary violations, as some crossings may be clinically appropriate and may serve to strengthen the therapeutic alliance (i.e., conducting home visits when appropriate, conducting a session in a public place when appropriate) (Olatunji et al., 2009). Thus, therapists must reflect on whether the boundary crossing was done for the client's benefit, whether the crossing was done in the context of empirically informed clinical judgement, and whether it goes in line with

the treatment goals and procedures agreed previously agreed upon with the client and family members (Gutheil & Brodsky, 2008). Therapists must also become aware of boundary issues with a client's family members, as dual relationships may sometimes occur (Gola et al., 2016). It has been suggested any boundary issues should be discussed openly with the client and/or family members when appropriate, while maintaining a professional, empathetic and understanding stance. Therapists are encouraged to seek supervision as it may help in gaining an objective view on the therapeutic relationship (Gola et al., 2016).

Cultural Considerations

Clinicians must be aware of their multicultural competence by understanding how their biases and worldviews may influence their practice, by increasing their knowledge through seeking education about diverse cultural/ethnic populations and related issues, and by implementing their skills in practice with empathy and respect. The literature has suggested including family members in the treatment of children can have a positive influence on treatment outcomes. However, when including family members in treatment, it is important to consider how a family's cultural background may play a role in the conceptualization of the presenting issue and in the treatment process. In the context of accommodation and expressed emotion, such behaviors by family members may reflect a family's unique ways of interacting, which may have been shaped by their cultural background and experiences. Such cultural factors must be treated with understanding, openness and respect.

Research on family processes across cultural groups have reported several differences that may influence treatment such as differences in family structure, shared values, and beliefs about parenting practices (Hines, Garcia-Preto, McGoldrick, & Weltman, 1992). Differences across different cultural groups has also been observed in therapeutic settings, as fundamental

Western concepts utilized in models of therapy may be unfamiliar to some minority groups (i.e., identification and expression of emotions, views of the self and one's identity, effective communication skills) (Fernando, 1991). It has been suggested that culture may influence treatment as one's cultural practices may shape the way emotions are processed and expressed, which can lead to variations in the ways one attributes their emotions and behaviors, in how they express their pathological symptoms, and how they are able to describe their symptoms to others (England-Iverson, 2015).

Although research has suggested one's culture will not lead to the development of OCD, it is possible that one's culture may influence the client's symptom severity. For example, if a client presents with obsessions and compulsions relating to religiosity, and they are from a community that places value on religion, it is possible their culture may influence how the client and family interpret the experience (England-Iverson, 2015). In fact, it has been suggested individuals who experience OCD symptoms relating to thoughts about blasphemy, compulsive praying, concerns about morality, and cleaning rituals relating to religious themes may experience increased distress, guilt, and the need to control their obsessions. In addition, they may be less likely to discuss their OCD symptoms with family members and members of their community due to fear and shame (Himle, Chatters, Taylor, & Nguyen, 2013).

Researchers have suggested one's family environment may play a role in the development of religiosity-related obsessions, specifically, families who emphasize and place value on strict moral codes may contribute to a child's inflated sense of responsibility and concerns about perfectionism, which may contribute to the development of obsessive thoughts and compulsions. Although research on the role of parental influence on the expression of religious-related OCD symptoms in children is scarce, clinicians must strive to assess if/how a

child's environment could be contributing and maintaining their OCD symptoms (Mariaskin, 2009). For example, if a child comes from a religious background, and is experiencing obsessions relating to fears about morality, which results in excessive praying compulsions, it is possible the family could be maintaining these symptoms by encouraging the child to be concerned with behaving in moral ways, and may reinforce the practice of praying to God for guidance and forgiveness. In this example, the clinician must be respectful of the family's religious beliefs and practices, and must also respectfully educate the family about the detrimental effects these practices may be having on the child's treatment outcomes.

It has also been suggested parents from ethnic minority backgrounds may differ in their views of mental illness. In fact, researchers found differences among Caucasian parents and parents from Indian backgrounds (i.e., from India or with Indian heritage), such that Caucasian parents perceived their child's OCD symptoms would have greater negative effects on their child's life, they perceived greater functional impairment and symptoms, and perceived treatment to be more helpful. These findings may reflect differing beliefs about mental illness and parenting practices based on cultural and ethnic groups, and it may also reflect a lack of knowledge about the nature of OCD and mental health (Fernandez de la Cruz et al., 2016). In addition, there seems to be cultural differences in help-seeking attitudes across groups. For example, African American parents expressed they would rather seek help from their community, churches, friends and family members over mental health professionals (Fernandez de la Cruz et al., 2016). Cultural differences have also been found in the acceptance of specific treatment interventions by clinicians. For example, Caucasian children diagnosed with OCD were less likely to be referred to a psychiatrist when compared to their African-American counterparts. Also, African-American parents reported less willingness to give their child

psychotropic medication, when compared to their Caucasian counterparts (Fernandez de la Cruz et al., 2016).

Parents from different ethnic backgrounds also seem to differ in their views on causal attributions of mental illness, which may have clinical implications in treatment. Yeh, Hough, McCabe, Lau, & Garland (2004) utilized a sample of 1338 parents of children with various mental health issues, and reported parents from racial/ethnic minority backgrounds were less likely to attribute the cause of mental illness to biopsychosocial factors than European-American parents. Also, African-American parents identified greater physical causes than Latino and Asian Pacific Islander parents. African-American parents also reported greater personality and familial factors as causes for mental illness, and identified prejudice-related issues more frequently than Latino parents. Latino and Asian Pacific Islander parents shared similar beliefs of family factors playing a role in one's mental health. Asian Pacific Islander parents reported greater issues relating to the "American culture" as a cause of their child's issues. These findings are of clinical importance, as they may influence parents' help-seeking behaviors and engagement in psychological treatment.

As different cultural groups may vary in their beliefs about mental health treatment, clinicians must take their client's cultural background into consideration. Research has suggested when clinicians are open to discussing culture-related issues and concerns, caregivers may demonstrate increased engagement in treatment, and the therapeutic alliance between the clinician and family members may be strengthened. Specifically, caregivers have reported feeling valued and validated when working with a therapist who demonstrates curiosity and understanding of their cultural background (Fox, Bibi, Millar, & Holland, 2017). Moreover, research has shown families across various cultures valued therapeutic factors relating to a

supportive therapeutic relationship, and demonstrations of respect and cultural sensitivity by the clinician (Tighe, Pistrung, Casdagle, Baruch, & Butler, 2012; Paradisopoulos, Pote, Fox, & Kaur, 2015; Kaur, Fox, & Paradisopolous, 2015).

The findings presented highlights the need for clinicians to seek information about different culture groups, possible barriers, challenges, and strengths clients from ethnic minority backgrounds and other cultural backgrounds may present with in treatment. Clinicians must strive to be multiculturally competent and must show sensitivity to different values and beliefs about mental health across different cultures, and clinicians should utilize their competence to deliver culturally sensitive interventions to families across different cultural/ethnic groups. They should also respectfully encourage psychoeducation about disorders, the recognition of symptoms and functional impairment, and the importance of psychological treatments (Fernandez de la Cruz et al., 2004).

Future Directions

Several recommendations for future directions have been made in previous sections. In addition to the recommendations aforementioned, there are several gaps within the literature on the pediatric population diagnosed with OCD, and the inclusion of family members in treatment that could use attention in the future. Specifically, future directions should focus on obtaining more data and information about the long-term treatment outcomes, maintenance of gains, and relapse rates for children and adolescents across various treatment modalities (Steketee & Van Noppen, 2003). Researchers should also focus their efforts on determining a consistent, standardized method of measuring significant markers of change and symptom reduction among the pediatric population, as there seems to be inconsistencies among studies in their methods of

measuring client progress (i.e., differing criteria, absence/presence of symptoms, differing time-intervals) (Fisher & Wells, 2005).

In the context of family influences on treatment outcomes, more research is needed on the constructs of expressed emotion and accommodation. Specifically, there seems to be gaps in the literature regarding how these factors emerge in families with pediatric psychopathology. Future direction should focus on exploring the directional relationship between high levels of expressed emotion and child psychopathology, such that it is unclear whether high expressed emotion is a consequence of child psychopathology, or vice-versa. Similarly, a better understanding about the directionality of high levels of accommodating behaviors among families and child functional impairments may be useful to address as it could help clinicians to intervene more effectively with families' maladaptive patterns (Storch et al., 2007).

Additional research is needed on factors within families that may contribute to longitudinal adaptive and maladaptive changes in levels of each individual construct within expressed emotion, as it has been suggested they may have differing predictive relationships with treatment outcomes (Calvocoressi et al., 1999; Ozkiris et al., 2015). Although research has shown levels of high expressed emotion within families contributes to negative treatment outcomes, few studies have focused on interventions targeting these constructs directly (Peris & Miklowitz, 2015). More information on specific interventions that may lower levels of expressed emotion within families may be useful for clinicians working with families. Future directions should focus on the emotional over-involvement component specifically, as researchers have voiced concerns over this construct not being an appropriate concept to measure maladaptive patterns among children and their families, such that, it may reflect adaptive behaviors among parents and their need to protect their children from suffering (Przeworski et al., 2012; Vostanis

et al., 1994). In addition, more research is needed on psychometric measures of expressed emotion that clinicians could use in session with clients and their families, as the measures currently used (i.e., CFI and FMSS) have been shown to be time consuming, and requires extensive training to administer and interpret (Leeb et al., 1991).

The literature reviewed has highlighted the importance of inclusion of the family unit in treating a child diagnosed with OCD. Mental health practitioners should aim towards becoming knowledgeable about family-based interventions when working with children diagnosed with OCD, rather than focusing solely on individual psychotherapy interventions. Such approaches and interventions must target the role of each family member in potentially maintaining and strengthening the child's symptoms, and aim towards reducing the amount of family accommodating behaviors, increasing the family's knowledge by providing psychoeducation, increasing effective communication between family members, reducing emotional reactivity, and encouraging the use of problem-solving skills.

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