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Behavioral Intervention Study for Self-Injurious Behavior in Children: "Eyelash-Pulling" Behavior Case Report

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Abstract: This study presents a case report on a behavioral intervention program addressing eyelash pulling behavior. One type of behavior associated with this disorder, also called trichotillomania, is eyelash pulling. In this study, it was aimed to reduce the behavior of the child's eyelash pulling behavior with behavioral interventions by considering the principles of applied behavior analysis at the basis of the behavioral approach. An 8-year-old eyelash pulling case was included in the study and 10 sessions of behavioral intervention were applied. Within the scope of the intervention program, the definition of the problem behavior was made, the function of the problem behavior was determined, and information about the family and the child was collected. Accordingly, the objectives of the intervention were determined and the strategies to be applied for problem behavior were identified. Strategies for the antecedents and consequences of behavior are included in the reduction of behavior. Appropriate reinforcement methods have been determined for the child and the family has been made an active participant in intervention process. Strategies such as directing to acceptable behaviors meeting the same need, differential reinforcement, controlling stimuli were applied and it was determined that these strategies were effective in extinguishing the eyelash pulling behavior. Strategies used before and after behavior in this behavior, also characterized as obsession-compulsive disorder and self-harm, it has been observed that this intervention, applied with parental participation, completely eliminates the behavior.

Introduction

Children may encounter many problems while acquiring new skills in their developmental process. If the child cannot fulfill the tasks in his/her developmental period and cope effectively with the problems he/she encounters, adaptation and behavioral problems may occur. Behavioral problems may arise as a result of the child's transfer of internal conflicts due to various mental and physical reasons to behaviors (Gözün Kahraman & Uğur Ulusoy, 2018). One of the compulsive behavior problems in children is trichotillomania (TTM), which is also considered as an impulse control disorder. Trichotillomania is an obsessive-compulsive disorder characterized by the unstoppable and repetitive pulling of hair, eyebrows and eyelashes, resulting in a significant lack of hair, eyebrows or eyelashes (Bolat and Yavuz 2016; Yıldırım, Çelenk, Toros, Kömür and Kütük, 2011). In DSM-4, the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association (2013), this disorder was included under the title of "an impulse control disorder not otherwise specified", while in DSM-5 it was included as "Obsessive-Compulsive Disorder and Related Disorders". According to the diagnostic criteria in the fifth edition (DSM-5) of the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association (2013), trichotillomania is defined as a repetitive hair pulling disorder that leads to emotional damage or functional impairment that resists attempts to inhibit or reduce the behavior in a repetitive

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manner to relieve tension until a visibly balding area is formed. In trichotillomania, hair pulling behavior, which is a repetitive pursuit, is not triggered by obsessions but may occur as a result of emotions such as anxiety, anger and stress.

Trichotillomania is diagnosed when hair pulling is not better explained by an underlying medical condition, substance abuse, or another psychiatric disorder (Snorrason et al., 2016). Eyelash pulling is observed in 40% of individuals with trichotillomania (Christenson et al., 1991; Schlosseret al., 1994). Three types of hair/eyebrow/eyelash pulling have been identified: early onset, automatic and focused. Early-onset hair pulling is thought to be a relatively benign form usually seen in children younger than 8 years of age. This condition is often treated with cognitive behavioral therapy methods (Çoban, 2021). Automatic hair pulling behavior is defined as occurring when a person is absorbed in thoughts or engaged in another task, often without being aware of it. Focused hair pulling behavior, on the other hand, is associated with more intense urges, increased tension and thoughts of hair pulling that occupy the individual's attention. The intensity of focused hair pulling appears to increase between the ages of 13-18 and is thought to correspond to stressors associated with adolescence (Duke et al., 2010).

Studies have shown that individuals with trichotillomania have negative effects on their interpersonal relationships, which can lead to individuals avoiding society or social activities (Annagür, 2010). In addition, it has been stated that the prevalence of the disease is higher than known, as individuals with trichotillomania present with alopecia or do not present at all as a result of their automatic hair pulling (Cohen et al., 1995; Durukan-Cöngüloğlu and Türkbay, 2011). Research shows that trichotillomania starts in childhood and adolescence and the age of onset for the type seen in early childhood is 18 months. (Durukan-Cöngüloğlu & Türkbay, 2011). There are studies claiming that the type seen in childhood is equally common in both sexes, while in adults it is more common in women or is equally common in both sexes. (Konkan et al., 2011). Trichotillomania tends to be chronic and can accompany the individual for years if left untreated (Snorrason et al., 2016).

Although the etiology of trichotillomania is not yet clearly known, it has been thought that many reasons (e.g. parental divorce, changing schools or moving, abuse, loss, etc.) that are thought to cause trauma in children may cause hair pulling (Greenberg & Sarner, 1965). Studies have revealed that the majority of individuals with hair pulling disorder (trichotillomania) also have one or more mental health disorders along with this condition (Christenson et al., 1991; Grant et al., 2020; Grzesiak et al., 2017). A study conducted by Christenson and colleagues (1991) found that among 60 individuals with trichotillomania, 49 exhibited a comorbid or lifetime psychiatric disorder. In a study of 175 adults diagnosed with trichotillomania, 53% of participants reported having a comorbid anxiety disorder, 45% had comorbid depression, and 29% had comorbid Attention Deficit/Hyperactivity Disorder (ADHD) (Grant et al., 2020). In the study conducted by Chesivoir and colleagues (2022), it was found that the prevalence of Attention Deficit Hyperactivity Disorder (ADHD) was significantly higher in individuals with trichotillomania than in the general population (2.5% compared to 15%).While it is well-established that trichotillomania frequently coexists with various other psychiatric disorders, the impact of comorbid conditions on symptom severity, functional impairment, quality of life, and the overall clinical presentation of TTM remains largely unclear (Chesivoir at al., 2022). In addition, researchers have also suggested that trichotillomania may develop due to genetic factors. (Konkan et al., 2011).

In behavior change studies for disorders such as trichotillomania, researchers also emphasize the inadequacy of self-regulation skills (Wulfsohn & Barling, 1978). Self-regulation is defined as an individual's ability to control emotions, thoughts, impulses, attention and behaviors. Self-regulation includes the sub-dimensions of delaying gratification, effortful control, inhibitory control, impulse control and impulsivity. Impulsivity is defined as an individual's inability to control his/her impulses when he/she wants to achieve something that will bring him/her pleasure, in other words, his/her inability to delay pleasure. A child's level of impulsivity may vary according to the child's relationship with his/her parents or primary caregiver, the child's temperament, level of anger control, and level of daily activity and attention (Ertürk et al., 2018).

In a study, it was found that individuals experienced tension with an increasing course before hair pulling and pleasure, satisfaction and relaxation after pulling (King et al., 1995). It has been found that during hair pulling, individuals pluck with certain techniques so that they do not feel pain or pain, and that they play with or eat the hair for a while after pulling (Stein, et al., 1995; Woods & Houghton 2014). In trichotillomania disorder, stimulus control, habit reversal training (HRT) or medication treatments are applied (Keuthen et al., 1998; Woods & Houghton, 2014). Habit reversal was started to be applied with the adaptation of the treatment developed by Azrin and others for the treatment of tics (Azrin et al., 1980). Habit reversal training includes three main elements: awareness training, counter-reaction training and social support. Awareness training lasts from the definition of the behavior with the individual to the formation of awareness while performing the behavior. Then, when the individual becomes aware of the behavior, counter-reactions are determined and the individual is asked to apply them. When the individual becomes aware of the behavior and applies the opposite reactions, positive behavior is rewarded by giving social reinforcement. Stimulus control involves identifying the environment, situations and sensory factors that trigger detachment, then eliminating these situations and factors and teaching to direct sensory needs (Woods & Houghton, 2014). In the treatment of trichotillomania, it is very important to prevent its interruption and to observe its course (Konkan et al., 2011). It is often stated that the behavior follows a chronic course and although pharmacotherapy is also used in treatment, the main basis of treatment is behavior therapy (O'Sullivan et al., 2000). One of the approaches used in behavior therapy is applied behavior analysis. Based on the principles of learning and behavior, applied behavior analysis evaluates the emotions, thoughts, cognitive factors underlying the background of behavior that contribute to the formation of observable behavioral changes, how they are formed and the effect of the environment on behavior (Çakıroğlu, 2020). In this way, the antecedents and functions of the intervention plans to be implemented will be determined correctly and the strategies that can be applied for behavior will be selected correctly.

In this study, in the light of all this literature, behavioral interventions including habit reversal training and stimulus controls were applied to an 8-year-old child with eyelash pulling obsessive-compulsive disorder, who will be referred to as 'Child A', within the scope of applied behavior analysis principles from a family-based developmental perspective. Through these interventions, it is aimed to minimize or completely eliminate the eyelash pulling behavior.

Method

A case who applied to the researcher and was diagnosed with trichotillomania by a child and adolescent mental health specialist before the intervention was included in the study. The rarity of the case studied formed the basis of this research.

This section includes information about the case, the assessment tools used to get to know the child and the family, and explanations about the basics of the intervention plan.

Characteristics of the Case

The case is an 8-year-old girl. She is a 3rd grade student. The academic success of the patient is at a moderate level. The mother is 39 years old, a housewife. The father is 45 years old, has been in prison for the last 1 year and is self-employed. The father is addicted to drugs and alcohol. Child A's older brother is 20 years old, graduated from high school and has a permanent job. His brother is the breadwinner of the household. The mother, the older brother and the child live in the same apartment with their grandparents. The father and mother have been living separately for 2 years due to the father's addictions and violence. However, they are still officially married. The father lives upstairs with the grandparents. The children see the father by going upstairs. The mother describes child A as 'She is stubborn, very angry, doesn't listen and often embarrasses me outside. She has no good qualities.'. She stated that after the parents separated, the child started to show eyelash pulling and bedwetting behaviors. Eyelash pulling behavior occurs during the day, usually at night before going to bed, in the dark, when the child is alone and has nothing

to do.

Tools used to collect information about the case

In order to obtain information about the child and the family, The Temperament Scale for Children (Özyürek, et al., 2020), Parental Attitude Scale (PAS) Yılmaz (2000), the Motivation Measurement Scale (Durand & Crimmins, 1988), the Beck Depression Inventory (Hisli-Şahin, 1988), and The Depression Inventory (Öy, 1991) were used.

The Temperament Scale for Children: The Temperament Scale for Children was developed by Özyürek et al., (2020) to determine the temperament traits of children between the ages of 4-8. The form is filled out by parents and is a 5-point Likert-type. The scale consists of 7 sub-dimensions: Activity Level, Closeness and Harmony, Sensory Sensitivity, Reactivity, Attention and Persistence, Rhythmicity and Emotional Sensitivity. Activity Level includes items that determine the child's level of motor mobility in activities; Closeness and Harmony; the child's level of warm/close behavior towards individuals he/she has just met and his/her adaptation to new situations/environments; Sensory Sensitivity; the child's level of sensory sensitivity such as sound, light and smell; Reactivity; the child's intensity of expression of emotions such as anger, fear and sadness; Attention and Persistence; the level of attention and perseverance in activities; Rhythmicity; the child's level of biological rhythmicity and Emotional Sensitivity; the child's level of sensitivity to the emotional states of others. While high scores obtained from the Activity Level, Closeness and Harmony, Attention and Persistence, Rhythmicity and Emotional Sensitivity sub-dimensions of the scale indicate that these characteristics are high in children, high scores obtained from the Sensory Sensitivity and Reactivity Status sub-dimensions indicate that these characteristics are at normal/acceptable levels in children.

Parental Attitude Scale (PAS). PAS was developed by Lamborn et al., (1991) in order to measure the attitudes that children perceive from their parents. The scale consists of three dimensions: acceptance/involvement, control/supervision, and psychological autonomy. The acceptance/involvement dimension is measured with 9 items, the control/supervision dimension with 8 items, and the psychological autonomy dimension with 9 items. The items in the first and third dimensions are evaluated on a 4-point Likert-type scale, the first two items in the second dimension are evaluated on a 7-point Likert-type scale, and the other items are evaluated on a 3-point Likert-type scale. The validity and reliability study of the scale in Turkish culture was conducted by Yılmaz (2000).

The Motivation Assessment Scale: The scale consists of 16 items to assess the likelihood of problem behaviors in different contexts. For example, one item asks if the behavior occurs after a difficult task request, while another checks for consistent occurrences. A question about social attention inquires if the behavior happens during interactions, and a tangible influence question asks if it occurs to obtain prohibited items. Respondents rate their answers on a 7-point scale from never (0) to always (6). The items are grouped into four categories: sensory consequences, escape, attention, and tangible consequences. Scores for each category are calculated by averaging the results of the four related items. Higher scores indicate that these factors may contribute to the persistence of the student's self-injurious behavior.

Beck Depression Inventory: The scale was developed by Beck and colleagues in (1961) to assess behavioral symptoms of depression in adolescents and adults. The level of severity is defined as follows: 0-9 is minimal, 10-16 is mild, 17-29 is moderate, and 30-63 is severe depression. The scale was translated into Turkish as the Beck Depression Inventory (BDI) by Hisli and Şahin in 1988, and validity and reliability analyses were performed.

The Children's Depression Inventory (CDI): The Depression Inventory for Children was developed by Kovacs in 1981 and is based primarily on the structure of the Beck Depression Inventory. The purpose of this particular scale is to systematically assess the depression symptoms of children between the ages of 6 and

17 and to provide important information about the mental health of children with the data obtained in this process. The recommended cut-off score for the scale is determined as 19; values above this score indicate that children have stronger depression symptoms. The validity and reliability study in Turkey was conducted by Öy in 1991, thus testing the suitability of this measurement tool for the Turkish population.

Case Report

The study included a case who was diagnosed with trichotillomania by a child and adolescent mental health specialist before the intervention. The fact that the case was rarely encountered formed the basis of this study. Scales were used to formally assess the problem behavior of the case; "Temperament Scale for Children" (Özyürek et al., 2020) to evaluate temperament; "Parental Attitude Scale" (Lamborn et al., 1991) to determine parental attitude; "Motivation Measurement Scale" (Durand & Crimmins, 1988) to determine the function of the behavior; "Beck Depression Scale" to determine the depression level of the mother and "Depression Scale for Children" to determine the depression status of the child. Interview and observation techniques were used as informal assessment methods. This case study was conducted by a graduate student under the guidance of the faculty member conducting the course, "Children with emotional and behavioral disorders" in the field of child development and education. The mother of the case was informed about the intervention by the researcher and signed a consent form.

General framework of behavioral intervention

In this case, behavioral interventions including habit reversal training and stimulus controls were implemented within the principles of applied behavior analysis from a family-based developmental perspective. Behavioral intervention was carried out with the active support of the parent. Within the scope of the intervention program, information about the family and the child was collected, the problem behavior was defined and its function was determined. The functional evaluation of the problem behavior was made, the objectives of the intervention were determined and the strategies to be applied for the problem behavior were decided. Strategies for the antecedents and consequences of the behavior were included in the reduction of the behavior. Appropriate reinforcers for the child were determined and the family was made an active participant in the intervention process.

Results

Beck Depression Scale, Depression Scale for Children, Temperament Scale for Children, Parental Attitude Scale and Motivation Measurement Scale were used to get to know the child and the family and to obtain information about their behavior. According to the results of the Beck Depression Scale, it was accepted that the mother was moderately depressed with a score of 23 and according to the results of the Depression Scale for Children, it was accepted that the child was at risk for the presence of depressive disorder with a cut-off score (19 points). According to the Temperament Scale for Children, the child scored 25 points in the activity level sub-dimension (the highest score in this dimension is 25), but 12 points in the attention and persistence sub-dimension (the highest score in this dimension is 20). In addition, it was determined that the level of reactivity, one of the temperament traits, was also high. According to these findings, it can be said that the child's mobility was high and attention and control were weak. Motivation Measurement Scale was used to determine the function of problem behavior. According to this scale, it was determined that the function of Child A's problem behavior was to obtain sensory stimuli. According to the Parental Attitude Scale, the parent was above the median in the acceptance/affection sub-dimension and below the median in the control and supervision sub-dimension, indicating a permissive parental attitude. The mother's statement that a healthy parent-child relationship could not be established during the interview supports the findings.

Intervention Planning and Implementation Process

The intervention program was planned as eight sessions and two follow-up sessions. Except for the first two sessions, the other sessions were held at the child's own home on a certain day of the week for 40 minutes with the participation of the child and the mother. The first two sessions were planned as two interviews in one week. Follow-up sessions were conducted one month after the end of the intervention.

In the first two sessions of the intervention, the history of the child and the family was taken, checklists and scales were applied, and the function of the behavior, the purpose of the intervention and the strategies to be used in the intervention were determined. The mother was informed about trichotillomania and the course of the intervention. The behavior frequency record form prepared by the researcher was explained to the mother, and the mother was asked to keep a frequency record for three consecutive days by putting a plus in the current day column each time the behavior was observed. The mother was asked to rate her parenting on a scale of 1-10 and then explain why she gave that score, and she gave her parenting a score of five. She explained, "I don't listen and pay attention to him very much, I think I could be a little more involved." The mother was then interviewed about parenting attitudes and book recommendations were made. An event record was kept to determine the frequency of the child's eyelash pulling behavior and it was determined that the child performed the behavior 20 times a day. The child told the mother that he experienced tension before pulling and sometimes plucked even though it hurt.

In Table 1, information about the antecedents and consequences of the problem behavior is given in detail.

Table 1: Information on antecedents and consequences of problem behavior before intervention

Pre-Behavior	Alter Behavior	Function of Behavior
At night before going to sleep, in bed in the dark	Warning to remove hands	Achieving sensory pleasure
When their eyes itch	Don't take your hand away from your eyelashes	Achieving sensory pleasure
When there's nothing to do	Directing attention to a different occupation (e.g. helping with housework)	Achieving sensory pleasure
	Verbal warnings and criticism by the mother about this behavior	Obtaining attention

In the other 6 sessions, activities planned to reduce eyelash pulling behavior were carried out. Strategies included habit reversal training (ensuring awareness of the behavior, identifying warning signs), stimulus control (directing sensory needs by playing with ropes and plush toys) and differential reinforcement (giving verbal reinforcement immediately when the child applies opposite responses). For example, the child was asked to put a band-aid on his/her thumb and index finger in order to prevent automatic eyelash pulling and to make it laborious for the child to pluck. In 'high-risk' situations, such as when watching TV or having nothing to do, children were encouraged to acquire yarns, soft bending sticks and a wristband making kit that could replace the active/visual stimulus and the child was encouraged to play with these in these high-risk situations. Table 2 shows the pre-behavioral and behavioral strategies applied for eyelash pulling behavior.

At the end of the second week, the band-aid application was terminated with the decrease in automatic pulling and the child was interviewed about the tension experienced before pulling. The finger snapping game was determined as a warning sign whenever the child felt this tension. In addition, a reinforcer jar was created to increase the child's motivation for the intervention. Each time the child applied the warning sign, he/she was asked to throw a bead. When the beads reached a certain number (20), the child was given the opportunity to exchange the beads for a reward of his/her choice. When the frequency records at the 4th week of the intervention were examined, it was found that the frequency of the behavior decreased to

10-13 picks per day. The number of beads in the reinforcer jar reached 20 and the child preferred to replace the beads with hamburgers.

Table 2. Behavioral strategies for eyelash pulling obsessive-compulsive disorder

Pre-Behavior Strategies	Post-Behavioral Strategies
Wears a band-aid on the thumb and index finger.	The parent ignores the behavior and encourages the child to hug the stuffed toy.
She uses a night light.	Every time the child plays with ropes during the day, sews a rag doll, makes a bracelet, the parent immediately gives verbal reinforcement.
Replacing dysfunctional thoughts with more functional ones: Giving a name eyelash pulling (Gargamel is given) Gargamel with arrives, the child is asked to expel Gargamel with opposite reactions (finger snapping game, clenching fists, clasping hands, playing with soft toys etc.)	The parent ignores the behavior and invites the child to play.
She sleeps with the plush toy at night.	The parent ignores the behavior and ask the child to help with household chores.
The parent ensures the child's participation in home activities.	The parent immediately gives verbal reinforcement when the child responds in the opposite way by ignoring the behavior.
Using interesting materials (The child plays with rope/fidget toys to meet sensory needs)	The parent offers to do exercise. When the child shows appropriate responses, she and her parent throw a button reaches 20, the child exchanges them for a reward od her choice.

Before the sixth session, as a result of the suspicions of the child's class teacher that the child might have ADHD, the mother took her child to a child and adolescent mental health specialist and as a result of the psychological evaluation, the child was diagnosed with ADHD and medication was started. One week after the initiation of medication, attention and focusing time increased. Eyelash pulling behavior also decreased in an inversely proportional manner. In the frequency record, it was determined that the daily pulling behavior decreased to 0-5 per day. Eyelashes started to grow visibly.

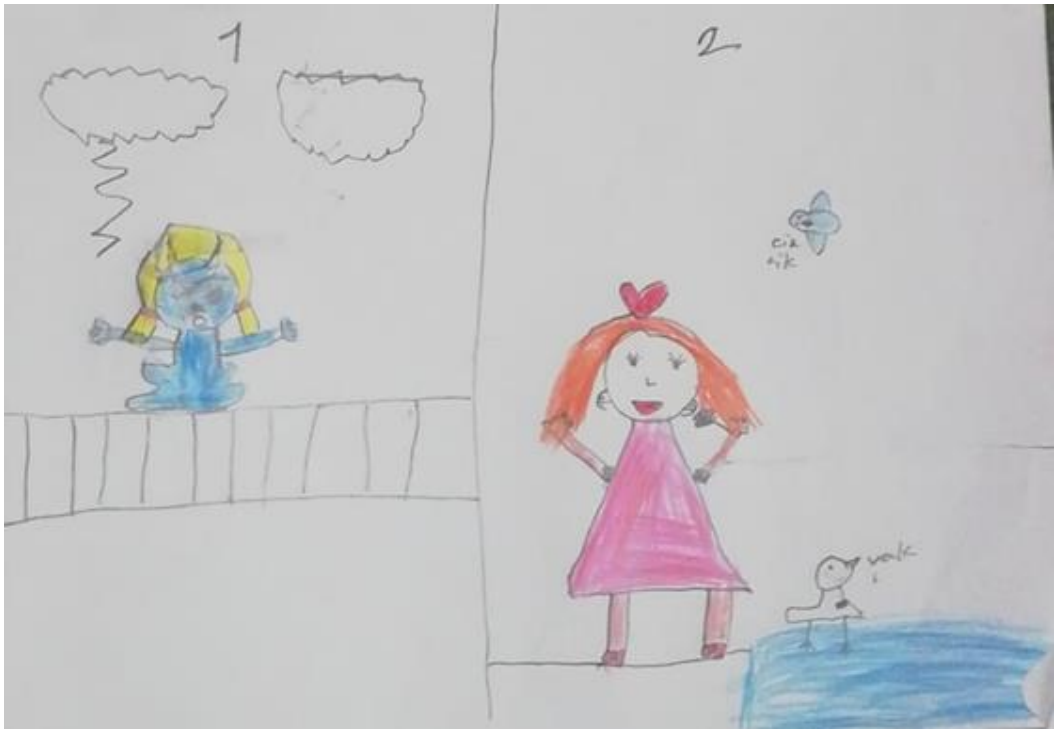
In the last two sessions, it was found that the child and the mother established a routine of reading books, the child acquired some responsibilities at home, and the older brother and the child played and spent more time together. The mother was informed by the researcher about the intervention strategies and the importance of ensuring the continuity of their sensitivity towards the pulling behavior. It was decided to end the reinforcer jar with the last reward and the mother was asked to contact the researcher if there was any increase in the pulling behavior until the follow-up session.

The first follow-up session was scheduled 1 month after the end of the intervention and the family was asked to continue to implement the strategies and to maintain their sensitivity towards the child in case any detachment was observed. In the follow-up session, it was determined that the mother-child relationship continued positively after the intervention process and the pulling behavior disappeared. The second follow-up session was scheduled for 1 month later.

In the second follow-up session, no pulling behavior was observed, and the child and mother were interviewed about what they did after the intervention process. Book recommendations were made to the mother and child. Afterwards, Child A was asked to draw a self-report picture in order to learn how he named his change in the treatment process by presenting the instruction "Do you remember the first time Gargamel came? I want you to draw how you see yourself before and after we started working." and if she wanted, she was asked to explain her drawing. Child A's drawing is given in Photograph 1. Child A explained her drawing as follows:

"In the first one, Smurfette is running away from the rain. Smurfette is very scared of the lightning and the noise. As she runs away from the rain, she cries because she is caught in a trap set for her by Gargamel. In the second one I am in a grove and there are birds and ducks. They are singing and singing. And I'm with them listening to their

songs and watching them. I look very happy, don't I?"



Photograph 1: Child's self-report picture before / after intervention

Conclusion and Discussion

This research is a case study on the planning, implementation and presentation of the results of behavioral intervention for eyelash pulling, one of the self-injurious behaviors. Research and clinical data show that this behavior is more common than thought and very few of them are officially reported (Annagür, 2010; Cohen et al., 1995; Durukan-Cöngüloğlu & Türkbay, 2011). Eyelash pulling constitutes 20-40% of trichotillomania types (Adaletli et al., 2016; Christenson et al., 1991; Schlosser, et al., 1994).

The diagnostic criteria for self-harm and trichotillomania include tension and stress before the behavior and pleasure and relaxation after the behavior (Ögel & Aksoy, 2006). The individual wants to get instant relief and pleasure by replacing the tension and stress they experience with behaviors such as pulling eyelashes and cutting themselves. This pleasure and relaxation experienced after the behavior is the biggest factor that reinforces the behavior. In parallel with the findings, the presented case stated to the mother that she experienced tension before the eyelash pulling, that she plucked it even if it hurt sometimes and that she felt relieved after pulling.

In parallel with the literature, our patient had stressful and restless living conditions such as maternal depression, conflicting marital relationship of the parents, and imprisonment of the father. Negative experiences such as separation from parents, divorce, migration, another illness of the parent or child, birth of a sibling, socioeconomic status of the family are among the factors that trigger trichotillomania (Adaletli et al., 2016.; Görker, 1997).

In our case, eyelash pulling was observed while watching television and in the dark. Similar to our case, in the study by Schlosser et al. (1994), individuals reported that they plucked most often while watching television, lying in bed and playing on the phone. In addition, it is also observed that individuals select a particular feather before pulling behavior, run their finger over it, and examine or eat it after pulling (Çığıl Fettahoğlu, 2014; Stein et al., 1995).

Trichotillomania is a disorder that tends to persist if left untreated. Late treatment and multiple psychiatric disorders accompanying trichotillomania have been found to be related (Adaletli et al., 2016). Early recognition of trichotillomania and initiation of treatment is very important in order to prevent both its persistence and possible psychiatric disorders. For this reason, detailed examination of hair loss patients presenting to dermatology and referral to psychiatry in case of suspicion may facilitate early recognition.

Drug and non-drug methods are used in the treatment of trichotillomania. In behavioral interventions, methods such as habit reversal training and stimulus control are used (Malhotra et al., 2008). In this study, an intervention based on behavioral approaches was applied to reduce the child's eyelash pulling behavior. In reducing the behavior, strategies for the antecedents and consequences of the behavior were included. Appropriate reinforcers were determined for the child and the family was made an active participant in the intervention process. Strategies such as directing the child's eyelash pulling behavior to acceptable behaviors that meet the same need, differential reinforcement, and controlling stimuli were applied instead of the eyelash pulling behavior, and these strategies were found to be effective in the extinction of the eyelash pulling behavior. The eyelash pulling behavior, which occurred 20 times a day in the frequency record in the first week, decreased to five times a day at the end of the intervention, and it was observed that the behavior was extinguished in the follow-up sessions. This result is very important in terms of showing that behavioral interventions are effective in challenging behaviors such as eyelash pulling.

Epidemiologic studies have shown that impulse control disorder such as trichotillomania is most frequently accompanied by ADHD (Çoban, 2021; Eroğlu et al., 2019; King et al., 1995). In parallel with the literature, our patient was diagnosed with ADHD by a child and adolescent mental health and diseases specialist before the sixth session. As a result, the initiation of methylphenidate-containing medication was a situation outside the intervention process and may have provided support to increase the child's awareness of eyelash pulling behavior. This can be considered important in terms of showing the effect of the presence of a disorder accompanying trichotillomania on the treatment process. If there is another accompanying disorder in impulse control disorders such as trichotillomania, both medication and behavioral interventions may give more effective results in trichotillomania disorder (Çoban, 2021).

In behavioral interventions for impulse control disorders such as trichotillomania, it is impossible to achieve results without the appropriate and correct behaviors of the parents. In this study, it can be thought that the meticulous implementation of the suggestions offered by the mother and the older brother in the intervention (referring the child to toys that direct the sensory needs of the child, contributing to the correct spending of free time, etc.) and the behaviors aimed at positively increasing family relationships (reading time, movie watching time, reward dinner, etc.) contributed greatly to the achievement of the goal of the behavioral intervention.

Trichotillomania is a disorder that is difficult to detect and prone to relapse and chronicity. It is important for patients to follow these strategies after treatment to avoid the possibility of relapse. Post-treatment follow-up sessions can be extended to reduce the likelihood of relapse or early detection.

The biggest task in analyzing the developmental periods of the child and structuring the parent-child relationship falls to child development specialists. In the treatment of children with emotional and behavioral disorders, it is emphasized that in addition to medical-pharmacological treatments, educational-behavioral interventions should be carried out together. This study is important in terms of exemplifying behavioral interventions in the treatment process of children with emotional and behavioral disorders. In addition, increasing the number of family-based individualized behavioral intervention studies implemented by child developers in the literature will close a major gap in the literature as well as being guiding examples for child developers, teachers and parents working in the field.

Declarations

Authors' Declarations

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