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Case Report

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Beyond Panic Symptoms: A Cognitive-Behavioral Case Study Integrating Familial Anxiety, Parenting Stress, Adverse Life Experiences, and a Child's Tuberculosis Diagnosis

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Abstract

Panic disorder is characterized by current and unexpected panic attacks accompanied by persistent concern about future attacks and maladaptive behavioral changes. Cognitive-behavioral models propose that panic symptoms are maintained through catastrophic misinterpretations of benign bodily sensations, which trigger escalating anxiety and avoidance behaviors. This case study describes the assessment, cognitive-behavioral formulation, intervention, and clinical evolution of a 31-year-old woman presenting with recurrent panic attacks, anticipatory anxiety, and significant distress related to parenting responsibilities. The client sought psychological support following a severe panic episode that occurred in a public setting and was followed by persistent anxiety, repeated emergency department visits, and fear of experiencing further attacks. Assessment procedures included a clinical interview, the Mini-Mult, and the Beck Anxiety Inventory (BAI). Findings suggested elevated emotional tension and vulnerability to anxiety, with no evidence of severe psychopathology. A cognitive-behavioral formulation highlighted the interaction between childhood adversity, family vulnerability to anxiety, health-related stressors, parental responsibility, catastrophic interpretations of bodily sensations, and safety behaviors. The intervention consisted of nine individual cognitive-behavioral therapy sessions focused on psychoeducation, breathing training, cognitive restructuring, reduction of safety behaviors, and gradual confrontation of previously avoided situations. Over the course of treatment, the client demonstrated a significant reduction in panic-related distress, increased tolerance of anxiety symptoms, decreased avoidance, and improved perceived self-efficacy. Residual vulnerability remained in situation involving concerns about her children's health and period of increased parental burden. This case illustrates the usefulness of cognitive-behavioral interventions for panic disorder and highlights the importance of considering parenting-related stress and personal developmental experiences when conceptualizing and treating anxiety disorders.

Keywords: Panic disorder; Cognitive behavioral therapy; Anxiety; Case study; Parenting stress; Panic attacks.

INTRODUCTION

Panic Disorder (PD) is an anxiety disorder characterized by recurrent and unexpected panic attacks, accompanied by persistent concern about future attacks and behavioral changes intended to prevent or avoid feared symptoms or situations [1]. Panic attacks involve abrupt surges of intense fear of discomfort that reach a peak within minutes and are typically accompanied by physiological symptoms such as palpitations, chest discomfort, dizziness, sweating, trembling, shortness of breath, or sensations of losing control and dying [1]. Although panic attacks may occur across several psychiatric conditions, Panic Disorder is distinguished by the recurrent attacks and ongoing anxiety regarding their recurrence and consequences.

PD is associated with substantial impairment in social, occupational, and interpersonal functioning [2]. Individuals with PD frequently report reduced quality of life, increased healthcare utilization, and elevated levels of psychological distress due to recurrent fears concerning physical health and future panic disorders [3]. Many seek repeated medical evaluations before receiving appropriate psychological intervention, often interpreting panic-related bodily sensations as indicators of serious medical conditions.

Among the most influential explanations for the development and maintenance of Panic Disorder is Clark's [4] cognitive model. According to this framework, panic attacks result from catastrophic misinterpretations of benign bodily sensations. Normal physiological experiences, such as increased heart rate, dizziness, warmth, or breathlessness, may be interpreted as signs of imminent physical or psychological catastrophe, including heart attack, loss of control, insanity, or death. These catastrophic appraisals trigger an escalation of anxiety, which further intensifies physiological arousal and reinforces the perception of danger, creating a self-perpetuating cycle of panic [4,5]. The model also emphasizes the role of hypervigilance toward bodily sensations. Individuals with PD often become highly attentive to internal physiological changes and may interpret normal fluctuations as evidence of threat [5]. This process is closely related to increased anxiety sensitivity, defined as the tendency to fear anxiety-related sensations because of beliefs regarding their harmful consequences [6]. Elevated anxiety sensitivity has consistently been identified as a significant vulnerability factor in the development and maintenance of panic symptoms.

Another important maintaining factor involves the use of safety behaviors. Safety behaviors are actions intended to prevent feared outcomes or reduce perceived threat, such as carrying medication, remaining close to exits, drinking water, seeking reassurance, avoiding physical exertion, or leaving anxiety-provoking situations [7]. Although these behaviors may provide temporary relief, they often prevent individuals from disconfirming catastrophic beliefs about bodily

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sensations and therefore contribute to the persistence of anxiety. Similarly, avoidance behaviors reduce opportunities for corrective learning and reinforce the perception that feared situations are inherently dangerous [2-5].

Developmental and environmental factors also appear to contribute to anxiety vulnerability. Exposure to adverse childhood experiences, including family conflict, emotional neglect, parental substance misuse, and domestic violence, has been associated with increased risk for anxiety disorders later in life [8]. Such experiences may contribute to the development of heightened threat sensitivity, hyperviligance, and maladaptive beliefs concerning safety, control, and personal vulnerability. Furthermore, genetic and familial influences appear to play an important role, with evidence suggesting that anxiety disorders frequently aggregate within families [9].

In addition to developmental vulnerabilities, stressful life events often play a significant role in the onset and exacerbation of panic symptoms. The transition to parenthood and the responsibilities associated with caring for children can represent substantial sources of emotional and psychological stress. Parenting demands have been associated with increased levels of anxiety, particularly among mothers who experience elevated perceptions of responsibility regarding their children's wellbeing [10]. When parenting responsibilities are combined with other life stressors, such as occupational demands, family transitions, or previous adverse experiences, psychological vulnerability may become more pronounced.

From a cognitive-behavioral perspective, individuals who hold strong beliefs regarding responsibility and control may be particularly vulnerable to anxiety when confronted with situations that challenge their perceived ability to protect or care for others. In such circumstances, physiological sensations associated with stress may be interpreted as evidence of personal inadequacy or impending loss of control, thereby increasing the likelihood the panic-related [5].

Cognitive-Behavioral Therapy (CBT) is currently considered the treatment of choice for Panic Disorder and has consistently demonstrated strong empirical support across clinical trials and meta-analytic studies [2,3,11,15]. Core CBT interventions include psychoeducation regarding anxiety, cognitive restructuring of catastrophic interpretations, exposure to feared bodily sensations, reduction of safety behaviors, and relapse prevention strategies. Through these interventions, individuals learn to reinterpret physiological sensations more adaptively and gradually develop greater confidence in their ability to tolerated anxiety-related experiences.

The present case study describes the assessment, cognitive-behavioral formulation, intervention, and treatment outcomes of a 31-year-old woman presenting with Panic Disorder characterized by recurrent panic attacks, anticipatory anxiety, and safety behaviors. Particular attention is given to the interaction between panic symptoms, parenting-related stress, previous adverse life experiences, and cognitive interpretations of bodily sensations. The case aims to illustrate the applicability of a cognitive-behavioral framework to the understanding and treatment of panic symptoms while highlighting the importance of considering parental responsibility and caregiving demands as clinically relevant factors in the maintenance of anxiety.

CASE PRESENTATION

The client was a 31-year-old woman referred to psychological services by her general practitioner due to recurrent anxiety symptoms and panic attacks that had progressively interfered with her daily functioning. At the time of assessment, she was employed part-time as a retail sales assistant and lived with her long-term partner and their two daughters, aged seven and two years. Prior to moving into a separate household with her partner and children, she has resided with her parents.

The client sough psychological support approximately seven months after experiencing and acute episode of intense anxiety while at the beach with her family. The episode was characterized by palpitations, chest tightness, dizziness, sensations of heat, and an overwhelming fear of losing control or dying. The severity of the symptoms prompted her to seek emergency medical care; however, no underlying medical condition was identified. Following this event, she became increasingly preoccupied with the possibility of experiencing another similar episode and reported recurrent anxiety, episodes of crying, heightened monitoring of bodily sensations, and multiple visits to emergency healthcare.

During the initial psychological assessment, a previous episode was identified that had occurred several years earlier while she was pregnant with her second child. During this incident. Which took place in a supermarket, she experienced intense physiological symptoms and briefly lost consciousness. At the time, she did not interpret the event as a panic attack and did not seek psychological support.

The client described a typical anxiety episode as beginning with physical sensations such as warmth, chest tightness, or palpitations. These sensations were frequently followed by automatic thoughts including "something is wrong with me" and "I am going to lose control" or "go crazy". Such interpretations appeared to intensify her anxiety, leading to additional symptoms such as dizziness, derealization, and increased physiological arousal. When anxiety escalated, she commonly attempted to manage the situations by leaving the environment, drinking water, and engaging in breathing exercises until the symptoms subsided. She also reported experiencing anticipatory anxiety before entering certain situations, particularly when she was alone with her children in public places, due to fear that she might become unable to care for them adequately if she experienced another panic episode.

Regarding her personal history, the client reported growing up in a family environment marked by paternal alcohol misuse and episodes of verbal aggression. Although she described a positive relationship with her mother and reported improvements in her relationship with her father in adulthood, she recalled childhood experiences characterized by emotional insecurity and unpredictability. She also reported a family history of anxiety symptoms on her maternal side and experiences of peer victimization during early childhood particularly related to her physical appearance. Although she did not identify these experiences as a major source of current distress, they may have contributed to the development of emotional vulnerability and sensitivity to interpersonal evaluation.

A significant stressor occurred approximately two years before referral when her eldest daughter was diagnosed with tuberculosis while she was simultaneously caring for a newborn infant. She described this period as emotionally demanding and associated with heightened concerns regarding her children's wellbeing. More broadly, she identified parenting responsibilities and feelings of overload as important sources of stress in her daily life.

Despite her difficulties, the client maintained relatively adaptive functioning. She remained employed, fulfilled her parental responsibilities, and reported supportive relationships with her partner, mother, and close friends. She demonstrated good insight into her emotional difficulties and expressed strong motivation to engage in treatment.

ASSESSMENT & DIAGNOSTIC EVALUATION

The assessment process was conducted over the initial stages of treatment and involved a comprehensive clinical interview alongside the administration of standardized self-report measures. The primary objectives of the assessment were to explore the nature and severity of the client's anxiety symptoms, identify potential maintaining factors, evaluated broader psychological functioning, and establish an appropriate case formulation to guide intervention.

Clinical interviews revealed a pattern of recurrent episodes

characterized by abrupt physiological activation, including sensations of heat, chest tightness, palpitations, dizziness, and feelings of unreality. These episodes were accompanied by catastrophic interpretations of bodily sensations (fear of losing control, becoming mentally unstable). Following the episodes, the client reported persistent concern about the possibility of future attacks, increased monitoring of bodily sensation and the adopting of coping strategies to prevent symptom escalation. The clinical interview also suggested that anxiety symptoms were closely associated with situations involving perceived overload, responsibility, and concerns regarding wellbeing of her children.

To complement the clinical assessment, the Mini-Mult [12], a brief version of the Minnesota Multiphasic Personality Inventory (MMPI), was administered. Overall, the validity profile suggested that the results were interpretable (L = 44; F = 31; K = 63) with possible tendency to maintain emotional control and minimize personal difficulties. Regarding clinical scales, most scores fell within normative ranges and did not indicate severe psychopatology. Slight elevations on scales Psychasthenia (Pt = 57) and Schizophrenia (Sc = 58) suggest emotional tension, elevated worry, psychological distress, and vulnerability to anxiety. Moderately elevation on scale Psychopathic Deviate (Pd = 66) suggests dissatisfaction with certain life circumstances. Taken together, the Mini-Mult profile suggested emotional strain and vulnerability to anxiety without indications of severe psychological disturbance.

The Beck Anxiety Inventory [13] was also administered to assess the severity of anxiety symptoms. The client obtained a total score of 9, corresponding to a mild level of anxiety. However, the clinical significance of this result required contextual interpretation: at the time of assessment, the client reported experiencing a relatively stable week with fewer anxiety symptoms and reduced daily demands. She noted that her children were on school holidays, resulting in a less demanding routine and reduced stress levels. Therefore, the BAI score was considered reflective of her emotional state at the specific time of assessment rather than a comprehensive representation of her overall symptom severity.

Although psychometric findings suggested only mild levels of anxiety, the clinical interview provided evidence of recurrent panic attacks, anticipatory anxiety, catastrophic interpretations of bodily sensations, and behavioral strategies aimed at preveting future episodes. Greater diagnostic weight was given to the clinical history and symptom presentation than to the isolated questionnaire score.

Based on the information obtained, the client's presentation was considered most consistent with Panic Disorder as defined in the Diagnostic and Statistical Manual of Mental Disorders [1]. The client described recurrent episodes of intense fear accompanied by prominent physiological symptoms, persistent concern regarding future attacks, and behavioral changes aimed at reducing the likelihood of experiencing panic symptoms.

CASE FORMULATION

The client's difficulties were conceptualized using Clark's [4] cognitive model of Panic Disorder, which proposes that panic symptoms are maintained through the catastrophic misinterpretation of benign bodily sensations.

Several factors appeared to contribute to her vulnerability to anxiety. Developmentally, the client was exposed to a family environment characterized by paternal alcohol misuse, verbal aggression, and emotional unpredictability. These experiences may have contributed to heightened sensitivity to threat and tendency to perceive situations as difficult to control. A family history of anxiety further suggested a predisposition toward anxiety-related difficulties.

The onset and exacerbation of symptoms appeared to be associated with significant life stressors, particularly the emotional demands associated with caring for two young children and concerns regarding her eldest daughter's health. These experiences occurred within a broader context of perceived responsibility and pressure to adequately manage multiple caregiving demands.

The maintenance of panic symptoms was primarily explained by the interaction between physiological sensations, catastrophic cognitions, and behavioral responses. Bodily sensations such as palpitations, dizziness, or chest tightness were interpreted as signs of imminent danger or loss of control, resulting in increased anxiety and physiological arousal. This process created a self-reinforcing cycle consistent with cognitive models of panic.

Several behavioral strategies contributed to symptom maintenance. The client frequently relied on safety behaviors, including carrying water, leaving situations when anxiety increased, and attempting to immediately reduce physiological discomfort. Although these behaviors provided temporary relief, they prevented opportunities to disconfirm catastrophic beliefs and reinforced the perception that anxiety-related sensations were dangerous.

Parenting-related stress also appeared to play an important role. Situations involving multiple responsibilities or concerns about her children's wellbeing frequently preceded episodes of heightened anxiety. In these contexts, the client reported thoughts reflecting doubts about her ability to cope effectively with demands, which contributed to increased emotional and physiological activation.

Despite these vulnerabilities, several protective factors were identified. The client demonstrated good psychological insight, strong motivation for treatment, and a supportive social network. She maintained adaptive functioning across major life domains and showed a willingness to confront previously feared situations. These strengths provided a solid foundation for therapeutic intervention and contributed positively to treatment engagement.

Overall, the client's presentation was understood as the result of an interaction between pre-existing vulnerability factors, significant caregiving-related stressors, catastrophic interpretations of bodily sensations, and safety behaviors that inadvertently maintained anxiety. This formulation informed the development of a cognitive-behavioral treatment plan focused on modifying maladaptive interpretation, reducing avoidance and safety behaviors, and increasing confidence in her ability to manage anxiety-related experiences.

INTERVENTION & TREATMENT PROCESS

The intervention consisted of nine individual sessions conducted within a CBT framework. Treatment was guided by Clark's [4] cognitive model of Panic Disorder and focused on reducing panic-related distress, modifying catastrophic interpretations of bodily sensations, decreasing reliance on safety behaviors, and enhancing coping self-efficacy.

The initial of treatment focused on assessment, psychoeducation, and the development of a shared understanding of the client's difficulties. Information regarding the physiological basis of anxiety and panic was provided, emphasizing the adaptive nature of the flight-or-fight response. The cognitive-behavioral model of panic was introduced to help the client understand the relationship between bodily sensations, catastrophic thoughts, emotional reactions, and behavioral responses.

Following the development of a collaborative case formulation, treatment focused on identifying and challenging maladaptive interpretations of anxiety-related sensations. Through cognitive restructuring techniques, the client was encouraged to examine evidence for catastrophic beliefs and develop more balanced explanations for symptoms such as palpitations, dizziness, and chest discomfort. Particular attention was given to beliefs related to loss of control and perceived inability to cope with anxiety-provoking situations.

Table 1: illustrates the therapeutic process session by session.

Session	Main objectives	Strategies/techniques
1	Initial assessment and establishment of the therapeutic relationship	Clinical interview and exploration of the reason for the appointment
2	Continuation of clinical assessment	Personal and family history and contextualization of the problem
3	Psychological assessment	Application of the Mini-Mult and BAI
4	Assessment, psychoeducation and self-regulation	Explanation of the anxiety cycle, diaphragmatic breathing training, and automation task
5	Analysis of anxiety records	Identification of automatic thoughts
6	Cognitive restructuring and reduction of avoidance	Socratic questioning and development of alternative thoughts
7	Cognitive restructuring and maintenance of motivation	Socratic questioning, development of alternative thoughts on catastrophic interpretations, and reinforcement of achievements and progress
8	Consolidation of strategies, promotion of autonomy, and preparation for the termination of the process	Review of the progress, identification of remaining vulnerable areas, exploration of current anxiety changes, work on interpreting physical symptoms as benign, preparation for the end of treatment
9	Termination of the process	Review of the progress, consolidation of achieved changes, reinforcement of internal resources and autonomy, preparation for normal relapse, review of useful strategies, and emotional closure of the therapeutic relationship

Behavioral interventions targeted the reduction of safety behaviors and avoidance patterns that contributed to the maintenance of anxiety. The client was encouraged to gradually remain in situations that elicited anxiety and to observe that feared outcomes did not occur. This process aimed to promote corrective learning experiences and increase tolerance of anxiety-related sensations.

Throughout treatment, attention was also given to the role of parenting-related stress in the maintenance of symptoms. Therapeutic work explored the relationship between feelings of excessive responsibility, perceived overload, and anxiety activation. The client was encouraged to develop more realistic expectations regarding her caregiving role and to adopt a more compassionate and balanced approach perspective toward her own coping abilities.

As treatment progressed, the client demonstrated increasing awareness of the cognitive and behavioral processes underlying her anxiety. She reported greater confidence in managing physiological sensations, reduced fear of panic symptoms, and increased willingness to engage in situations that had previously been associated with distress.

The final sessions focused on consolidating therapeutic gains and discussing strategies for managing future stressors. Relapse prevention principles were reviewed, emphasizing the continued use of the cognitive and behavioral skills acquired throughout treatment. At the conclusion of the intervention, ongoing psychological follow-up was arranged with another mental health professional to support the maintenance of progress and continued personal development.

TREATMENT OUTCOMES & CLINICAL EVOLUTION

Throughout the intervention, the client demonstrated gradual improvements in her understanding and management of anxiety symptoms. Clinical observations and self-reported changed suggested reductions in panic-related distress, decreased fear of bodily sensations, and greater confidence in coping with anxiety-provoking situations.

One of the most significant changes involved the client's interpretation of physiological symptoms. At the beginning of treatment, sensations such as palpitations, dizziness, chest tightness, and warmth were frequently perceived as signs of imminent danger or loss of control. As therapy progressed, the client developed a more accurate understanding of the relationship between anxiety and physiological arousal, becoming increasingly able to recognize these sensations as temporary manifestations of anxiety rather than indicators of serious physical or psychological harm.

A reduction in anticipatory anxiety was also observed. Initially, the client reported frequent concerns regarding the possibility of experiencing another panic attack and remained highly vigilant to bodily sensations. Over time, she described becoming less preoccupied with the recurrence of symptoms and more capable of tolerating uncertainty regarding her emotional and physiological experiences.

Improvements were similarly evident in the client's behavioral responses to anxiety. Situations that had previously been associated with apprehension were gradually approached with greater confidence, and the client reported reduced reliance on avoidance strategies. She increasingly demonstrated a willingness to remain in anxiety-provoking situations and observed that feared outcomes did not occur. This experience appeared to contribute to greater self-efficacy and reduced fear of panic-related sensations.

Throughout treatment, the client also developed increased awareness of the relationship between stress, responsibility, and anxiety. She became more able to identify situations in which feelings of overload and concerns regarding her children's wellbeing contributed to heightened emotional arousal. This awareness facilitated the use of more adaptive coping strategies and helped reduce the tendency to interpret stress-related physiological sensations catastrophically.

By the end of the intervention, the client reported feeling more capable of managing anxiety independently. She demonstrated greater

confidence in her ability to challenge maladaptive thoughts, tolerate discomfort, and respond effectively to stressful situations. Although occasional anxiety remained present, particularly during periods of increased responsibility or concern for her children, these experiences were described as significantly more manageable and were no longer associated with the same level of fear, avoidance, or perceived loss of control observed at the beginning of treatment.

Overall, the intervention was associated with meaningful clinical improvement in panic-related symptoms, cognitive appraisals, and perceived coping ability. The client completed treatment with a broader repertoire of adaptive coping strategies, increased psychological flexibility, and a more balanced understanding of anxiety. Given the relatively brief duration of treatment and the persistence of some vulnerability factors, ongoing psychological follow-up was recommended to support the consolidation of therapeutic gains and continued symptom management.

DISCUSSION

This present case study illustrates the assessment and treatment of PD in a young mother whose symptoms emerged within a broader context of caregiving responsibilities, health-related stressors, and pre-existing vulnerability factors. The case provides support for cognitive-behavioral conceptualizations of panic and highlights the importance of considering parenting-related stress and developmental experiences when formulating and treating anxiety disorders.

This client's presentation was highly consistent with Clark's [4] cognitive model of panic. Throughout the assessment process, panic episodes were characterized by the catastrophic interpretation of relatively benign physiological sensations. These sensations were interpreted as signs of imminent danger, loss of control, or severe physical illness, leading to escalating anxiety and physiological arousal. As proposed by Clark [4], the resulting increase in bodily sensations further reinforced catastrophic beliefs, creating a self-perpetuating cycle that maintained panic symptoms.

The client's experience also supports previous research highlighting the role of anxiety sensitivity in PD. Anxiety sensitivity refers to the tendency to fear anxiety-related sensations because of beliefs that these sensations have harmful physical, social, or psychological consequences [6]. In the present case, physiological sensations that would ordinarily be considered harmless were perceived as highly threatening. This pattern contributed to hypervigilance towards bodily experiences and increased the likelihood of panic escalation. Over the course of treatment, the client's ability to reinterpret these sensations more adaptively appeared to reduce their perceived threat value and contributed significantly to symptom improvement.

Another important feature of this case involved the role of safety behaviors in maintaining anxiety. Consistent with cognitive-behavioral models, the client relied on several strategies intended to prevent feared outcomes, including carrying a bottle of water, leaving anxiety-provoking situation, and attempting to immediately control physiological sensations. Although these behaviors initially reduced distress, they likely prevented opportunities for disconfirming catastrophic beliefs. This finding is consistent with Salkovskis' [7] proposition that safety behaviors maintain anxiety by preventing individuals from discovering that feared consequences are unlikely to occur. As treatment progressed and the client gradually reduced reliance on these behaviors, she developed greater confidence in her ability to tolerate anxiety and observed that panic-related sensations naturally subsided without requiring immediate intervention.

This present case further highlights the relevance of developmental experiences in understanding vulnerability to anxiety disorders. The client reported growing up in a household characterized by paternal alcohol misuse, verbal aggression, and exposure to domestic violence. Research has consistently demonstrated associations between adverse childhood experiences and increased risk for anxiety disorders, emotional dysregulation, and heightened threat sensitivity in adulthood [8,14]. Exposure to unpredictable and threatening family environments may contribute to the development of enduring beliefs concerning vulnerability, danger, and the need for constant vigilance. Although it is impossible to establish causal relationships within a single case study, these experiences may have contributed to the client's heightened sensitivity to perceived threats and increased vulnerability to panic-related difficulties.

A particularly noteworthy aspect of this case involves the role of parenting-related stress. Although PD is frequently conceptualized primarily in terms of physiological sensations and cognitive misinterpretations, the present case suggests that caregiving responsibilities played a significant role in both the onset and maintenance of symptoms. The client repeatedly associated heightened anxiety with situations involving perceived overload, excessive responsibility, and concerns regarding her children's wellbeing. Furthermore, one of the most emotionally significant events preceding symptom escalation involved her eldest daughter's tuberculosis diagnosis during a period in which she was simultaneously caring for a newborn infant.

Previous research has demonstrated that parenting stress is associated with increased levels of anxiety, emotional distress, and psychological burden, particularly among mothers with substantial caregiving responsibilities [10]. Parenting often involves a heightened sense of responsibility for the safety and wellbeing of others, which may amplify vulnerability to anxiety when individuals perceive themselves as unable to cope effectively with environmental demands. In the present case, situations involving concerns about her children frequently appear to activate beliefs regarding responsibility and control, increasing emotional arousal and creating conditions that facilitated panic-related experiences.

The interaction between caregiving demands and panic symptoms may be particularly relevant from a cognitive-behavioral perspective. The client's fears were not solely focused on the possibility of experiencing anxiety symptoms but also on the consequences that such symptoms might have for her ability to care for her children. This finding suggests that catastrophic cognitions may extend beyond concerns regarding personal safety and include fears related to perceived parental inadequacy. Consequently, addressing beliefs regarding responsibility and coping capacity became an important component of intervention.

The client's positive response to treatment is consistent with the extensive evidence supporting CBT as a first-line intervention for PD [11,15]. Treatment focused on several empirically supported mechanisms, including psychoeducation, cognitive restructuring, reduction of safety behaviors, and gradual confrontation of feared situations. Through these interventions, the client developed a more accurate understanding of anxiety-related sensations and became increasingly willingly to tolerate discomfort without engaging in avoidance strategies.

One particularly important therapeutic outcome involved increased self-efficacy. At the beginning of treatment, the client frequently perceived herself as unable to cope with anxiety-provoking situations and expressed doubts regarding her ability to manage multiple responsibilities. By the conclusion of treatment, she demonstrated greater confidence in her capacity to tolerate anxiety, challenge maladaptive interpretations, and remain engaged in meaningful activities despite emotional discomfort. This finding is consistent with cognitive-behavioral theories emphasizing the importance of corrective learning experiences in reducing anxiety and promoting adaptive functioning.

Despite the positive outcomes observed, some residual vulnerabilities remained evident. Concerns regarding her children's health and wellbeing continued to represent emotionally salient triggers, and period

of increased responsibility remained associated with heightened anxiety. These findings are unsurprising given the central role that caregiving responsibilities occupied within the client's personal values and identity. Rather than indicating treatment failure, the persistence of occasional anxiety may reflect the realistic challenges associated with parenting and the normal fluctuations in emotional functioning that occur throughout life. Importantly, the client demonstrated a significantly improved ability to respond adaptively to these experiences compared to her functioning at the beginning of treatment.

Several limitations should be acknowledged when interpreting this case. First, conclusions are based on a single-case design, limiting generalizability to broader populations. Second, outcome evaluation relied primarily on clinical observations and self-reported changes rather than repeated standardizes measures administered throughout treatment. Future case studies may benefit from incorporating multiple assessment point to allow more systematic evaluation of symptom change over time. Finally, the treatment period was relatively brief, preventing examination of long-term maintenance of therapeutic gains.

Despite these limitations, the present case contributes to the understanding of PD by illustrating how panic symptoms may emerge and persist within a broader context of developmental vulnerability, caregiving-related stress, and cognitive interpretations of bodily sensations. The case also demonstrates the clinical utility of cognitive-behavioral interventions in promoting symptom reduction, increased self-efficacy, and improved psychological functioning. Importantly, it highlights the value of considering parenting responsibilities and personal life context when developing individualized formulations and treatment plans for individuals presenting with panic-related difficulties.

CONCLUSION

This case study described the assessment, cognitive-behavioral formulation, and treatment of a 31-year-old woman presenting with PD characterized by recurrent panic attacks, anticipatory anxiety, catastrophic interpretation of bodily sensations, and reliance on safety behaviors. The case illustrates how panic symptoms can be understood within a broader context of developmental vulnerability, caregiving-related stress, and heightened perceptions of responsibility.

Consistent with cognitive models of panic, the client's difficulties were maintained by the misinterpretation of anxiety-related physiological sensations as indicators of imminent danger, resulting in a cycle of escalating fear, hypervigilance, and avoidance. The intervention grounded in CBT principles, focused on psychoeducation, cognitive restructuring, reduction of safety behaviors, and gradual confrontation of feared situations. Over the course of nine sessions, the client demonstrated meaningful improvements in her understanding of anxiety, increased tolerance of bodily sensations, reduced avoidance, and enhanced confidence in her ability to cope with stressful situations.

The case further highlights the importance of considering parenting-related stress and previous adverse life experiences when conceptualizing anxiety disorders. For this client, concerns regarding her children's well-being and a strong sense of personal responsibility appeared to play a significant tole in the onset and maintenance of anxiety symptoms. Addressing these factors within treatment contributed to a more comprehensive understanding of her difficulties and supported positive therapeutic outcomes.

Overall, this case provides additional support for the effectiveness of CBT in the treatment of Panic Disorder and underscores the value of individualized case formulations that integrate cognitive, behavioral, developmental, and contextual factors. Future clinical work may benefit from further exploring the interaction between panic symptoms, caregiving demands, and perceptions of responsibility in individuals experiencing anxiety disorders.

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