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BRIEF COGNITIVE BEHAVIORAL THERAPY (CBT) FOR ADOLESCENT SOMATIC SYMPTOM DISORDER IN PRIMARY CARE : A CASE REPORT

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ABSTRACT

Background: Somatic Symptom Disorder (SSD) in adolescents is frequently associated with Adverse Childhood Experiences (ACEs), such as bullying. In primary care settings with limited access to specialist resources, structured brief interventions are urgently required. **Case Presentation:** A 16-year-old male presented with recurrent syncope, dyspnea, and diaphoresis over the past six months. These symptoms were triggered by traumatic memories of physical bullying experienced during elementary school. The patient underwent a Brief CBT intervention consisting of six sessions (30 minutes per session). The protocol included ABC model psychoeducation, the "Worry Time" technique, cognitive restructuring, and behavioral activation. Clinical progress was monitored through patient-reported outcomes. Significant improvement was observed. Anxiety attacks and somatic symptoms decreased from daily occurrences to once per month. The patient showed enhanced emotional regulation and successfully returned to regular school activities. While these outcomes rely on clinical observation and lack standardized psychometric scales, they indicate a positive recovery trend. **Conclusion:** This case suggests that Brief CBT could be a promising, effective, and safe modality in primary care for managing trauma-related somatic symptoms in adolescents, highlighting its potential as a scalable intervention in resource-limited settings.

INTRODUCTION

Adolescent mental health has emerged as an urgent global concern.[1,2] Recent data from the 2022 Indonesia National Adolescent Mental Health Survey (I-NAMHS) indicates that approximately 1 in 20 Indonesian adolescents (5.5%) were diagnosed with a mental disorder within the past 12 months, with anxiety disorders being the most prevalent.[3] Despite this high disease burden, Indonesia continues to face significant challenges regarding a wide treatment gap. This disparity is driven by pervasive social stigma and limited accessibility to specialist mental health services, which are often concentrated in urban areas.[2,4]

Somatic symptoms, physical complaints rooted in psychological distress rather than injury or organic disease, are remarkably prevalent among adolescents. Studies indicate that approximately 10% to 25% of this population experience persistent physical complaints that lack a clear organic cause, often leading to substantial functional impairment.[5,6,7] In first-level health facilities or primary care settings, Somatic Symptom Disorder (SSD) is a frequently encountered clinical manifestation that often goes undiagnosed or is misdiagnosed.[4,8] Epidemiological studies in similar primary care environments suggest that medically unexplained symptoms can account for up to 20% of all consultations.[9,10] Persistent physical symptoms without adequate organic pathological basis frequently leads patients to undergo unnecessary medical over-investigation, which ultimately increases the burden of healthcare costs and heightens patient anxiety.[11,12] Recent meta-analyses and literature reinforce the strong correlation between Adverse Childhood Experiences (ACEs)—specifically bullying—and the emergence of medically unexplained chronic physical complaints.[13,14,15,16]

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When bullying occurs during critical developmental years, it can lead to chronic dysregulation of the Hypothalamic-Pituitary-Adrenal (HPA) axis, the body's central command center for managing stress. This disruption also affects the autonomic nervous system, essentially keeping the body's 'alarm system' turned on long after the threat has passed.[17,18] This condition manifests as somatization, whereby the mind expresses internal emotional conflict through external physical symptoms. If not adequately addressed, this can permanently impair academic function, social interaction, and psychosocial development in adolescents.[19,20,21]

In Indonesia, government policy via Minister of Health Regulation (PMK) No. 43 of 2019 has emphasized the importance of integrating mental health services into Community Health Center (Puskesmas).[22] However, the uneven distribution of clinical psychologists and psychiatrists necessitates that primary care physicians possess the competency to perform basic psychological interventions.[23] Brief Cognitive Behavioral Therapy (Brief CBT) has emerged as an evidence-based intervention modality that is efficient and practical for implementation in primary care settings with limited time and resources.[24,25,26] Therefore, this case report aims to illustrate the clinical application and potential effectiveness of a structured Brief CBT protocol in a resource-limited primary care setting for an adolescent suffering from SSD secondary to bullying trauma.

CASE PRESENTATION

The patient is a 16-year-old male, an 11th-grade high school student, who presented to the Community Health Center (Puskesmas) with a chief complaint of recurrent episodes of generalized weakness and fainting (syncope) over the last six months.

The reported somatic symptoms included lightheadedness, palpitations, dyspnea (hyperventilation), and diaphoresis of the palms. These complaints occurred paroxysmally, particularly within the school environment. They were specifically triggered by or occurred during physical education classes. The patient reported experiencing "racing thoughts" in the form of flashbacks of past memories that interfered with his academic concentration. Over the last two months, the frequency of syncope increased to nearly every time a stressor was triggered at school. There was no history of seizures, tongue-biting, or urinary incontinence during the syncopal episodes, suggesting a suspicion of psychogenic syncope.

The patient resides with his parents and two elder sisters in a lower-middle-class household. He lives in a nuclear family, while his parents were supportive, there was a lack of open communication regarding emotional distress, which may have contributed to the somatization of his psychological trauma. A history of psychological distress in the second elder sister suggests an underlying family system vulnerability.[15,17] Regarding his education, the patient maintains good academic performance; however, he exhibits signs of learned helplessness, feeling compelled to permit peers to copy his work due to a persistent fear of bullying, notwithstanding the supportive nature of his current high school environment. This fear originates from a significant history of physical bullying during the 4th and 5th grades of elementary school, characterized by routine physical assaults on his limbs and jaw by peers during physical education classes.

In terms of daily functioning, the patient reports a healthy appetite with no weight-related concerns and no history of substance abuse. No issues regarding his sexuality were identified. He continues to engage in recreational activities, such as listening to music and occasionally socializing with friends. However, clinical assessment revealed a history of self-harming behavior, specifically repetitive head immersion in water, alongside passive suicidal ideation without a specific plan reported within the past month.

Physical examination during an episode revealed tachycardia (Heart Rate: 108 bpm); however, vital signs were within normal limits during stable conditions. Neurological examination showed no focal deficits. Electrocardiogram (ECG) results were within normal limits (sinus tachycardia), and routine blood laboratory tests ruled out anemia or hypoglycemia as the cause of syncope.

The patient maintained fair eye contact, with an anxious mood and restricted affect. Thought processes were coherent, with cognitive rumination related to past trauma. No delusions or hallucinations were identified. Orientation and memory remained intact.

Based on the paroxysmal autonomic arousal and recurrent syncope, several differential diagnoses were

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considered. Epilepsy and cardiac arrhythmias were ruled out due to the lack of focal neurological deficits, absence of tonic-clonic movements, and normal ECG results. While Panic Disorder and Generalized Anxiety Disorder (GAD) were considered, the patient's predominant focus on physical suffering and the specific link to bullying-related flashbacks pointed more definitively toward Somatic Symptom Disorder (SSD).

Written informed consent was obtained from the patient and his legal guardian for the publication of this case report. All clinical data and information derived from the medical records have been anonymized, and all personal identifiers have been removed to ensure patient confidentiality.

This study is a case report with a longitudinal approach that evaluates the effectiveness of a brief psychological intervention for an adolescent patient in a primary health care facility. The case management procedure was divided into three main stages: assessment procedure, intervention design, and evaluation.

The assessment was conducted during the first visit using the HEADSSS framework, which is the gold standard for adolescent psychosocial evaluation.[19] A semi-structured clinical interview technique was employed to explore past trauma history, current coping mechanisms, and environmental risk factors. A mental status examination was performed to identify perceptual disturbances, thought content disorders (rumination), and autonomic manifestations of anxiety.[27]

The intervention was delivered by a primary care physician with structured training in Brief CBT, under the supervision of a senior psychiatrist to ensure fidelity to the treatment protocol. The treatment was initially designed as a multimodal approach, combining pharmacotherapy (Diazepam 2 mg and Amitriptyline 12.5 mg) with psychological intervention. However, as the patient discontinued the medication due to subjective discomfort and a preference for non-pharmacological management, the intervention proceeded primarily with Brief Cognitive Behavioral Therapy (CBT). This modality is a modified version of standard CBT specifically adapted to meet the practical constraints of primary care settings.[24]

Table 1. Summary of Clinical Progression During the 6-Session Intervention

Session	Intervention Focus	Panic Intensity/ SUDS (0-100%)	Frequency of Somatic Episodes (biweekly)	Outcomes & Evaluation
1	Clinical Assessment, Safety Planning, & Psychoeducation	100%	14 times	Mental Status: Presence of severe autonomic symptoms and cognitive rumination. History of non-suicidal self-injury (self-harm) and low-intensity suicidal ideation identified. Interventions: 1. Safety Contract: Patient and family committed to maintaining a safe environment. 2. Psychoeducation on the ABC Cycle. 3. Pharmacotherapy: Diazepam 2mg (PRN) and Amitriptyline 12.5mg (nocte) for sleep regulation and autonomic anxiety management. Risk Mitigation: Family education regarding strict monitoring of side effects and supervised medication.
2	Worry Time Technique	90%	12 times	Evaluation: Pharmacotherapy was discontinued due to excessive sedation. Intervention: Established a designated "Worry Time" (17:00–17:30). The patient learned to distinguish between productive (solvable) and non-productive (unsolvable) worries (e.g., identifying intrusive thoughts like "what if there are two earths" as thoughts that do not require cognitive processing).
3	Cognitive Restructuring	40%	4 times	Evaluation: Somatic episodes decreased from daily occurrences to twice per week. Intervention: Utilized evidence-based tables (supporting vs. opposing facts). The patient recognized that current high school peers are

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				supportive; thus, the thought "I will be hit again" was identified as a cognitive distortion.
4	Behavioral Activation	55%	6 times	Evaluation: Anxiety showed fluctuant increases due to the examination period. Intervention: Implemented Daily Activity Scheduling (DAS). The patient incorporated positive activities, such as vocal lessons and listening to music, to enhance positive affirmations and self-efficacy.
5	Relaxation Training & Lifestyle	30%	2 times	Evaluation: Somatic episodes further reduced to once per week. Intervention: Education on sleep hygiene and diaphragmatic breathing techniques to manage somatic symptoms during acute episodes of dyspnea.
6	Termination & Relapse Prevention	10%	0-1 time	Final Evaluation: Complaints of syncope and dyspnea decreased drastically (occurring only once per month). The patient demonstrated the ability to independently manage negative thoughts. The sessions concluded with a scheduled periodic monitoring plan.

The treatment plan consisted of six sessions conducted bi-weekly, with each session lasting approximately 30 to 45 minutes. Following the clinical guidelines established by Cully & Teten[24] and Beck[27], the intervention protocol was structured to include several core therapeutic components. These began with ABC Model psychoeducation, which aimed to help the patient recognize the interplay between his autonomic physical symptoms, behaviors, and cognitions.[28] To address cognitive rumination, the "Worry Time" technique was employed as a stimulus control strategy.[24] Central to the cognitive phase was cognitive restructuring, where the patient identified cognitive distortions through the use of Thought Records and the systematic analysis of supporting and opposing facts.[18,27,29]

Additionally, the program incorporated behavioral activation through activity scheduling to enhance the patient's sense of mastery and pleasure.[30] Finally, relaxation training and lifestyle modifications were introduced, featuring diaphragmatic breathing techniques and the "90-second rule" to manage acute somatic distress.[31,32,33] These techniques have been shown to effectively mediate respiratory and cognitive symptoms in patients with panic and somatic distress.[31,33,34]

To evaluate the effectiveness of the intervention, the study utilized Patient-Reported Outcome Measures (PROMs). At the beginning of the program, the patient explicitly defined his therapeutic goal: *"To reduce panic attacks or bodily discomfort from a daily occurrence to at most once a week."* The achievement of this self-defined goal was systematically monitored across all sessions to evaluate the intervention's efficacy.

Table 2. Patient's Thought Record (Session 3): Cognitive Restructuring Process

Situation	Emotions & Intensity (0-100%)	Automatic Thoughts (Belief 0-100%)	Evidence Supporting the Thought	Evidence Against the Thought (Contradictory Facts)	Cognitive Revision (Alternative Thought)	New Emotions & Intensity (0-100%)
Physical Education (PE) class at the school sports field	Sad (50%) Panic (100%)	"I am terrified that I will be bullied or physically assaulted again" (75%)	**— (None identified)**	1. Current peers are consistently helpful 2. Friends actively invited me to join the game 3. Friends provided support during the physical assessment 4. Peers offered assistance during my panic attacks 5. No incidents of mocking or violence	"The environment is different now; I am surrounded by supportive peers and I am safe." (60%)	Sad (25%) Panic (25%)

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The outcomes over the six-session intervention demonstrated significant and gradual clinical improvement. The frequency of somatic attacks decreased markedly from 14 episodes per two-week period at the commencement of therapy to 0–1 episode per month by the conclusion of the sixth session.

The implementation of cognitive restructuring during the third session yielded a significant shift in the patient's belief system. As illustrated in **Table 2**, the patient was able to systematically challenge his core automatic thought—specifically the fear of recurring physical assault during physical education classes. By identifying contradictory evidence from his current supportive peer environment, the patient developed a more balanced cognitive appraisal. This intervention resulted in a marked reduction in panic intensity, measured using the Subjective Units of Distress Scale (SUDS), where 0% represents total relaxation and 100% represents the highest imaginable level of anxiety/panic. The intensity decreased from a self-reported 100% to 25%, which directly corresponded with the clinical cessation of syncopal episodes.[11,12]

Notably, in the patient's Thought Record (**Table 2**), the column for "Evidence Supporting the Thought" remained vacant. This absence of supportive evidence served as a powerful clinical realization for the patient, highlighting that his fear was a cognitive distortion (catastrophizing) rooted in past trauma rather than current reality.[27,28] The identification of supportive peers acted as a "corrective emotional experience," weakening the neural circuits that reinforced his fear and replacing them with more adaptive cognitive appraisals.[18]

DISCUSSION

The clinical manifestations in this 16-year-old male represent a complex interplay between his specific history of bullying and adolescent somatic responses.[13,14] In this case, the chronic stress from past bullying likely triggered a state of persistent hypervigilance via the dysregulation of the Hypothalamic-Pituitary-Adrenal (HPA) axis.[15,16] The patient's recurrent syncope during physical education classes is interpreted here as a specific "freeze response," a primitive survival mechanism where the body becomes immobilized when escape feels impossible. This occurred when his prefrontal cortex, the brain's "rational center", failed to perform top-down emotional regulation against the flooding of anxiety.[18,21]

As illustrated in **Figure 1**, the clinical trajectory showed a significant turning point following the implementation of the "Worry Time" technique after Session 2. This stimulus control strategy allowed the patient to gain initial mastery over his ruminative thoughts, resulting in a sharp decline in Panic Intensity from 90% in Session 2 to 40% by Session 3.[24,35] This breakthrough was further solidified through cognitive restructuring; by systematically analyzing the "Subjective Units of Distress Scale" (SUDS) and identifying the total absence of evidence for current threats (**Table 2**), the patient weakened the neural circuits reinforcing his fear.[27,28] This "corrective emotional experience" was the pivotal mechanism that allowed him to replace the fear of physical assault with a more balanced appraisal of his current supportive peers.[18,36]

Notably, **Figure 1** also captures a slight transient increase in Panic Intensity during Session 4 (rising from 40% to 55%), which coincided with an external academic stressor in the form of school examinations. However, the upward progression of the Patient-Reported Outcome Measures (PROMs) score—which continued to rise despite the session 4 spike—demonstrates that the patient's overall functional agency was becoming more resilient.[26,36] By Session 6, the near-zero panic intensity facilitated his full return to the sports field, effectively reclaiming a setting that had previously served as his primary trauma-triggering environment.[20,37]

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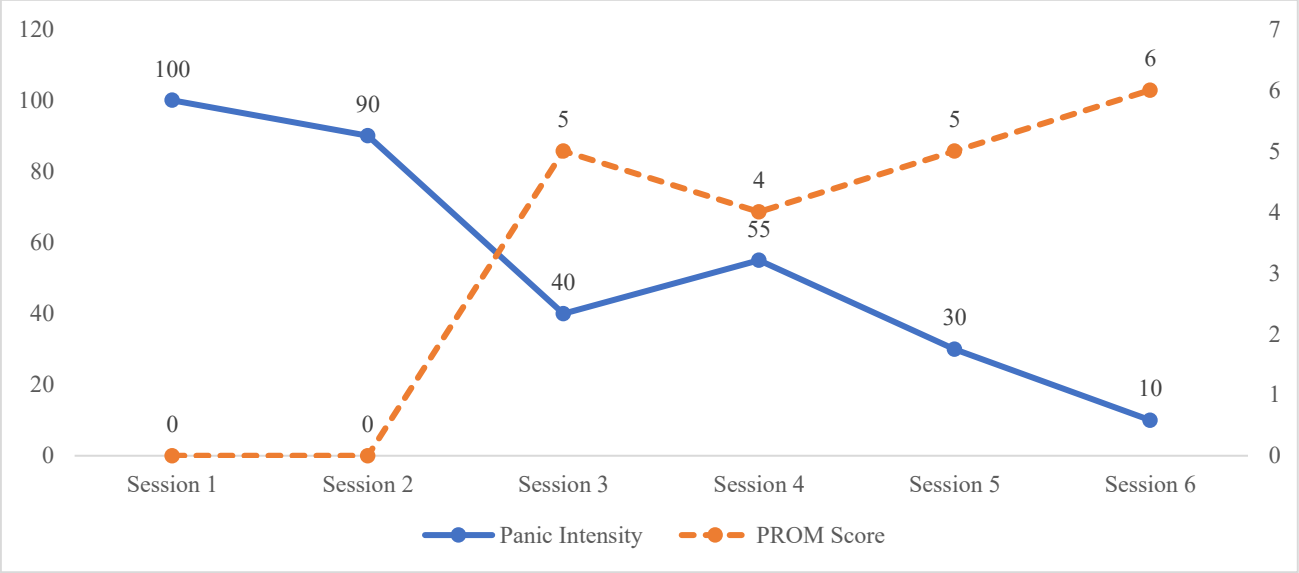

Figure 1. Progression of Panic Intensity (SUDS) and Patient-Reported Outcome Measures (PROMs) across six Brief CBT sessions.

Managing this case in a primary care setting (Puskesmas) highlighted the necessity of clinical flexibility.[5,38] While a multimodal approach was initially planned, the patient's poor tolerance for Amitriptyline necessitated a rapid and successful pivot to a purely non-pharmacological strategy.[8,39] This adjustment aligns with current clinical updates suggesting that non-pharmacological interventions often serve as the first-line treatment for SSD, especially when medication side effects are a concern.[39,40] Furthermore, the success of this transition demonstrates that a robust therapeutic alliance, the collaborative bond and trust between a patient and their clinician, can bridge the gap in resource-limited settings, even when pharmacological options fail.[25,26] Complementing this alliance, the patient's family functioned as a crucial "external ego," meaning they provided the logical structure and emotional stability that the patient had not yet developed internally.[17,19] Strengthening such psychotherapy competencies in primary care remains vital to bridging the mental health treatment gap in Indonesia.[2,3,22]

Several limitations of this case report must be acknowledged. First, as a single-case study, the findings are not generalizable to all adolescent populations with Somatic Symptom Disorder. Second, the clinical evaluation relied on customized Patient-Reported Outcome Measures (PROMs), Subjective Units of Distress Scale (SUDS) for panic intensity, and subjective clinical interviews rather standardized psychometric scales, such as the PHQ-9 for depression or GAD-7 for anxiety, which use validated scoring to measure symptom severity. While these interviews focused on the patient's primary treatment goals, the absence of standardized scores limits the objective longitudinal comparison of symptom severity. Lastly, the results may be influenced by the therapist's early proficiency level in performing Brief CBT in a primary care setting.[41,42]

CONCLUSION

This case suggests that Brief CBT is a feasible and potentially effective intervention for managing adolescent Somatic Symptom Disorder in a primary care setting. The integration of cognitive restructuring and behavioral techniques led to significant clinical improvement and functional recovery. However, given the single-case design and reliance on subjective measures, these findings should be interpreted with caution. For health systems, this case highlights the need for actionable policies, such as providing Brief CBT training for general practitioners, nurses, and psychologists as a service standard for non-specialistic psychiatric cases in primary care (Puskesmas) to bridge the gap in mental health services. Furthermore, the successful discontinuation of pharmacotherapy alongside Brief

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CBT indicates that psychological resilience can be sustained even without long-term medication.

ETHICAL APPROVAL

Client signed informed consent and gave permission for publication. All identifiable details have been altered.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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AUTHOR CONTRIBUTIONS

DA was responsible for the conceptualization, methodology, investigation, and writing of the original draft. Review, editing, and structural refinement were performed by DA with editorial assistance from M. The author has read and agreed to the published version of the manuscript.

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