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# ADOLESCENT FEMALE WITH CHRONIC INSOMNIA DISORDER WITH ANXIETY SYMPTOMS: A RETROSPECTIVE CASE ANALYSIS OF CALLIGRAPHY TRACING FROM THE PERSPECTIVE OF NARRATIVE PSYCHOLOGY BASED ON ARCHIVED CLINICAL MEDICAL RECORDS

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**Abstract: Objective:** This work retrospectively evaluates real-world clinical outcomes of calligraphy-tracing narrative psychology for a teenage female living with chronic insomnia alongside anxiety, drawing entirely from existing clinical file records. During intervention sessions, clinicians adopted well-known verses from Li Bai's poem Early Departure from Baidi City as the core narrative medium; participant completed pre-printed calligraphy tracing rather than free-style handwriting creation. **Methods:** Clinical file data of one 17-year-old female adolescent presenting with chronic insomnia and co-occurring anxiety were reviewed in this retrospective case report. All three completed calligraphy-tracing narrative psychology sessions belonged to regular clinical service, not specially arranged research interventions. She had taken sertraline hydrochloride tablets and other medications continuously for three months previously, yet obtained limited symptom relief. Relevant information, including 14-item Hamilton Anxiety Scale (HAMA-14) results, Zung Self-Rating Anxiety Scale (SAS) scores, self-maintained sleep logs, and clinical consultation notes, were extracted retrospectively for case summarization. **Results:** Following three clinical sessions of calligraphy-tracing narrative psychology, this adolescent showed obvious relief of anxious feelings. Her time taken to fall asleep shortened greatly, and she could naturally drift off without any sedative-hypnotic drugs. Imagery carried within classical Chinese verses helped her put repetitive intrusive worries into external expression and build new, adaptive emotional stories. Improvements remained stable in clinical documentation collected at 4-week and 8-week follow-up visits. Importantly, the young patient herself picked the poetry tracing sheet out of dozens of available options instead of receiving therapist-assigned material. This choice reflected natural psychological alignment between poetic imagery and her inner emotional struggles. **Conclusion:** As a culturally rooted local psychological intervention tool, calligraphy-tracing narrative psychology shows practical clinical value for teenagers suffering from chronic insomnia combined with anxiety in routine clinical scenarios. The fact that patients get to choose their own tracing content acts as one meaningful clinical influencing factor. This practical method offers a usable non-drug reference scheme for youth mental-health service work.
**Keywords:** Calligraphy-tracing narrative psychology; Calligraphy tracing; Adolescent; Chronic insomnia; Anxiety; Retrospective case study; Classical Chinese poetry

## 1 INTRODUCTION

Many teenagers diagnosed with chronic insomnia also struggle with excessive anxious thinking before bedtime. Short courses of sleeping pills can only bring temporary sedative effects and cannot resolve cognitive-emotional sources behind sleep disturbances. Adolescent patients often hold worries about medicine dependence, and for this reason they refuse long-term pharmacotherapy.

Previous neuroimaging research has noted that practicing Chinese calligraphy may induce flow-like mental states, stabilize emotional status and adjust autonomic nervous system activity [1]. Calligraphy-tracing narrative psychology combines standardized tracing hand-movement training with core ideas from narrative therapy. Using pre-printed classical-poetry tracing templates as symbolic carriers, patients trace printed Chinese characters stroke-by-stroke. Such repeated hand movements help release accumulated inner stress, while poetic metaphor assists emotional reorganization. Compared with creating original calligraphy works from scratch, tracing lowers technical requirements significantly and prevents frustration caused by poor handwriting performance, which makes it more suitable for adolescent beginners without calligraphy background.

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The poetic lines “On both banks the apes cry without cease; the light boat has passed ten thousand mountains” carry rich metaphorical psychological meanings. The non-stop cries of apes stand for persistent, unwanted anxious thoughts that repeatedly run through one’s mind. Meanwhile, the small boat sailing past countless mountains symbolizes emotional release and psychological breakthrough. At present, published clinical case materials which combine calligraphy tracing and classical-poetry metaphor for adolescents with insomnia-anxiety comorbidity remain scarce. This retrospective case report aims to add real-world clinical observational evidence for culture-adapted non-pharmacological intervention approaches. The overall analytical workflow can be seen in Figure 1.

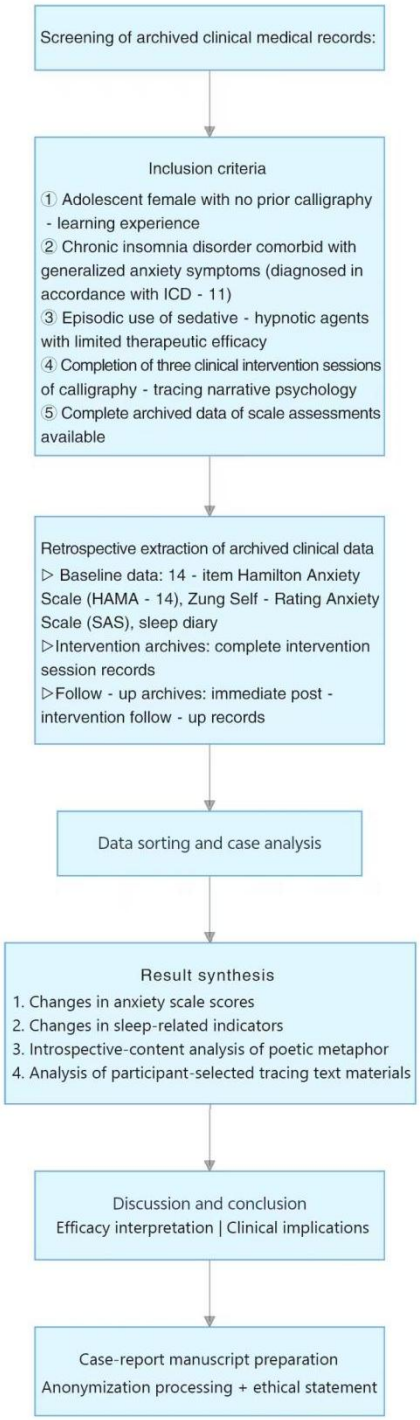



**Figure 1** Technical Roadmap of This Retrospective Case Analysis

Note: This flowchart presents the full working procedure of the retrospective case analysis. No extra research-related assessments or interventions were implemented. All source data come from routine archived clinical records. Clinical intervention applied standardized tracing tasks instead of self-created freehand calligraphy.

## 2 CASE PRESENTATION

### 2.1 Participant Information

The present study retrospectively sorted routine clinical archive data belonging to a 17-year-old female high-school student. Heavy academic burden and difficult interpersonal interactions served as her major sources of mental pressure. She had no serious physical diseases, no documented family history of mental disorders, and had never learned calligraphy before. Table 1 lists her basic demographic features and baseline clinical conditions.

### 2.2 Chief Complaint and Clinical History

For eight months, this patient found it hard to fall asleep each night. Her sleep-onset latency fluctuated between 70 min and 120 min. Negative repetitive thinking and anticipatory anxiety before sleep represented prominent clinical manifestations. She tried sedative-hypnotic agents three times, but only achieved short-lived calming effects. Fearing drug dependency, she declined further pharmacological treatment.
Baseline clinical indicators retrieved from archived records were as follows: HAMA-14 total score = 21; SAS standard score = 63; average sleep-onset latency = 86 minutes; subjective sleep quality = 2–3 points (0–10 scale).

### 2.3 Clinical Diagnosis

According to the ICD-11 diagnostic criteria (adopted by WHO in 2019 and effective from 1 January 2022), the participant was diagnosed with chronic insomnia disorder comorbid with generalized anxiety symptoms. Clinical assessment excluded organic sleep-related diseases, including obstructive sleep apnea and restless legs syndrome.

### 2.4 Clinical Timeline

- 8 months before intervention: Sleep disturbance first appeared, triggered by academic stress and interpersonal troubles
- 2-6 months before intervention: Occasional sedative-hypnotic use with limited therapeutic benefit
- Intervention phase: Three weekly calligraphy-tracing narrative psychology sessions (90 minutes for each session, routine clinical service)
- 4-week follow-up: Routine post-intervention clinical evaluation
- 8-week follow-up: Longer-term outcome clinical assessment

## 3 INTERVENTION PROCEDURE

The clinical intervention integrated three core elements: body-focused attention training through structured calligraphy tracing, spoken narrative processing, and therapeutic metaphor derived from ancient Chinese poetry. Since the participant possessed zero calligraphy experience, template-based tracing tasks were selected to reduce technical pressure and improve treatment adherence.
From the perspective of narrative therapy theory, unprocessed, chaotic inner feelings can be adjusted through externalization and verbal expression. While completing tracing work, repeated hand movements externalize those recurring pre-sleep anxious thoughts. Inner psychological conflicts could then be processed safely within this symbolic operational space.
Notably, rather than receiving material assigned by the therapist, the young woman picked her own poetry tracing template from dozens of alternatives. This self-selection reflected natural psychological matching between poetic imagery and her inner emotional experience.

### 3.1 Session 1

Clinicians built therapeutic rapport and explained the basic logic behind this intervention. The patient herself chose the verse “On both banks the apes cry without cease; the light boat has passed ten thousand mountains” as working material. Clinicians guided her to pay attention to breathing rhythm and hand movement, instead of pursuing neat-looking handwriting. Guided experiential questions helped her connect "non-stop ape cries" with her own circular anxious thoughts occurring at bedtime. Home assignments included 20-minute daily tracing practice and regular sleep-diary keeping.

### 3.2 Session 2

Therapists reviewed her home-practice experience together with sleep-log records. She reported less inner mental oppression, even though chaotic thoughts still emerged from time to time. Clinical discussion focused on the metaphor of “the light boat”. Clinicians helped her form a new adaptive understanding: anxious thoughts do not need to be completely eliminated; psychological progress can still happen even when inner noise persists. She kept completing daily tracing homework.

### 3.3 Session 3

The participant did not write out the full couplet completely and selected only these two lines. She stated that she felt slight variations each time she did calligraphy. Her numerous restless thoughts, comparable to the calls of gibbons on both banks, gradually externalized beyond her body. The sounds persisted, yet they no longer exerted a strong influence

once they were outside of her. She reported obvious emotional relief and less entanglement by intrusive thoughts. Therapists supported her to reconstruct positive self-narratives. Standard post-intervention assessments were finished, and simplified tracing-based self-regulation skills were taught for handling stress in future daily life.

## 4 CLINICAL OUTCOMES

Scale scores and sleep-relevant indicators measured across different clinical time points are summarized in Table 2.
After three formal clinical sessions, her anxiety level dropped distinctly; the time she needed to fall asleep shortened greatly, and she could get to sleep without any sleeping medicine. Tracing poetic content before bedtime effectively calmed down her repetitive intrusive thinking. Therapeutic improvements stayed stable through the 4-week and 8-week follow-up periods. When academic pressure grew heavier afterwards, she was capable of independently applying tracing-based self-regulation skills.

**Table 1** Demographic and Clinical Baseline Characteristics of the Participant

| Variable | Participant information |
|---|---|
| Age (years) | 17 |
| Gender | Female |
| Education | Senior high-school student |
| Prior calligraphy experience | None |
| Primary psychological stressors | Academic pressure, interpersonal frustration |
| Insomnia duration | 8 months |
| Prior hypnotic exposure | Episodic use of sedative-hypnotic agents three times, limited efficacy |
| ICD-11 diagnosis | Chronic insomnia disorder with generalized anxiety symptoms |
| Number of clinical intervention sessions | 3 sessions of calligraphy-tracing narrative psychology (routine clinical care) |

Note: All data were retrospectively extracted from de-identified archived clinical records.

**Table 2** Changes in Psychological Scales and Sleep-Related Indicators across Clinical Time Points

| Time point | HAMA-14 total score | SAS standard score | Sleep-onset latency (min) | Subjective sleep quality (0–10) |
|---|---|---|---|---|
| Pre-intervention | 21 | 63 | 86 | 2–3 |
| Immediately post-intervention | 11 | 44 | 26 | 7 |
| 4-week clinical follow-up | 10 | 42 | 28 | 7–8 |
| 8-week clinical follow-up | 9 | 40 | 27 | 7–8 |

Note: HAMA-14 = 14-item Hamilton Anxiety Scale; SAS = Zung Self-Rating Anxiety Scale. Sleep-onset latency values were averaged from documented ranges in archived sleep diaries. Subjective sleep quality was self-reported by the participant. No prospective research assessments were conducted; all data originated from routine clinical archives.

## 5 DISCUSSION

For adolescents living with both chronic insomnia and anxiety, repeated pre-sleep rumination acts as a key factor maintaining clinical symptoms. Temporary sedation brought by sleeping pills cannot change underlying cognitive-emotional pathological mechanisms [2].
Structured calligraphy-tracing practice offers sensorimotor grounding, shifting attention away from negative thought loops and stabilizing autonomic nervous activity [1]. As a low-threshold, culturally-based therapeutic technique, tracing removes performance pressure related to artistic skill and helps teenagers stay engaged in treatment [3]. Poetic metaphor creates a safe symbolic container for anxious feelings, supporting adaptive emotional processing without directly confronting painful psychological content.
Different from classic verbal-focused CBT-I, this culturally-modified intervention combines non-verbal motor regulation with aesthetic narrative rooted in traditional Chinese culture. Such features make it more acceptable for teenagers, who tend to hold back their true feelings in communication. Patients' right to select poetic material themselves constitutes one key therapeutic factor. This practice follows client-centered therapy principles, taps into unconscious emotional resonance and improves intervention effectiveness [4].
This case report strictly complies with CARE reporting standards to guarantee transparent documentation of clinical procedures and patient-driven behaviours [4].

### 5.1 Limitations

This is a retrospective single-case study, so recall bias cannot be fully excluded. We cannot separate the individual therapeutic contribution from hand-movement tracing versus poetic narrative. Follow-up observation only lasted 8 weeks, and the long-term curative effect remains to be verified. Findings cannot be broadly generalized to wider populations [5].

### 5.2 Clinical Implications

Calligraphy-tracing narrative psychology represents a practical, easy-to-access, culture-compatible, non-pharmacological intervention choice for adolescent patients with insomnia-anxiety comorbidity who respond poorly to hypnotic drugs [6].

## 6 CONCLUSION

For this 17-year-old female patient suffering from chronic insomnia accompanied by anxiety, three sessions of culture-oriented calligraphy-tracing narrative psychology brought steady improvements in anxious mood, sleep latency, and subjective sleep quality [7-8]. Her intermittent reliance on sedative-hypnotic medication was also successfully reduced. Allowing patients to independently pick poetic tracing material is one important factor promoting therapeutic benefits. This indigenous psychological interventionn deserves further clinical popularization and empirical verification within youth mental-health services.

## COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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## AUTHORS' CONTRIBUTIONS

JieLi Jiang and Wei Zhou designed the clinical intervention framework and drafted the manuscript. Wei Zhou supervised the clinical work, critically revised the manuscript, and served as the corresponding author. Henry S. R. Kao: Resources, Writing-review & editing. LiZi Bao and Yu Tang collected clinical data. Xue Xiao, QingZhan Ma, MengQing Liu, Yong Wei and Ze Zhan participated in manuscript revision and literature collation. All authors have read and approved the final version of the manuscript.

## ETHICAL STATEMENT

This retrospective single-case analysis uses only existing routine clinical files. No research-specific interventions or evaluation tests were performed. Every calligraphy-tracing-narrative session was part of standard clinical psychological care. Therapeutic informed consent had been obtained in clinical settings at the time of treatment. Additional written permission for case publication was collected from both the adolescent patient and her legal guardian. All personal identifying information has been fully removed to protect privacy. All work complies with ethical standards laid down in the Declaration of Helsinki. The institutional review board waived formal ethical approval for this anonymized retrospective case study in accordance with relevant regulations [4].

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