

BMJ Open Efficacy of unified protocol for transdiagnostic treatment of emotional disorders in adolescents (UP-A) in China: protocol for a randomised controlled trial

Xue-Ying Liu ^{1,2}, Mei-Rong Pan,^{1,2} Xue Gao,^{1,2} Zhong-Fang Fu,³ Lu Liu,^{1,2} Hai-Mei Li,^{1,2} Yu-Feng Wang,^{1,2} Qiujiu Qian ^{1,2}

To cite: Liu X-Y, Pan M-R, Gao X, *et al.* Efficacy of unified protocol for transdiagnostic treatment of emotional disorders in adolescents (UP-A) in China: protocol for a randomised controlled trial. *BMJ Open* 2025;**15**:e091352. doi:10.1136/bmjopen-2024-091352

► Prepublication history for this paper is available online. To view these files, please visit the journal online (<https://doi.org/10.1136/bmjopen-2024-091352>).

M-RP and QQ contributed equally.

Received 18 July 2024
Accepted 20 January 2025



© Author(s) (or their employer(s)) 2025. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ Group.

For numbered affiliations see end of article.

Correspondence to

Qiujiu Qian;
qianqiujiu@bjmu.edu.cn and
Dr Mei-Rong Pan;
panmeirong@bjmu.edu.cn

ABSTRACT

Introduction Emotional disorders are highly prevalent among adolescents, with a high rate of comorbidity. Convenient and effective treatment options are needed to reduce costs and improve effectiveness. The unified protocol for transdiagnostic treatment of emotional disorders in adolescents (UP-A) is an evidence-based transdiagnostic approach aimed at ameliorate emotional symptoms. The objective of this study is to assess the efficacy of the UP-A in Chinese adolescents with emotional disorders using multidimensional evaluations.

Methods and analysis This study is a two-armed, randomised controlled trial on the efficacy of 12 week UP-A on adolescents with emotional disorders along with their parents. Forty-eight participants will be randomly assigned to either the treatment as usual (TAU) group or the TAU combined with UP-A (UP-A+TAU) group. We will evaluate the efficacy of the UP-A, through the following primary and secondary outcomes: emotional disorder severity, emotional symptoms, emotion regulation, cognitive patterns, executive function, resilience, quality of life, social and family functioning. Participants will be assessed at baseline (T1), week 4 (T2), week 8 (T3), post-treatment (T4) and 3 month follow-up (T5).

Discussion This protocol outlines the first randomised controlled trial investigating the efficacy of the UP-A among Chinese adolescents with emotional disorders. The findings may contribute to providing an effective and feasible transdiagnostic intervention in Chinese clinical settings.

Ethics and dissemination This trial has been approved by the Ethics and Clinical Research Committees of Peking University Sixth Hospital and will be performed under the Declaration of Helsinki with the Medical Research Involving Human Subjects Act (WMO). The results will be disseminated in a peer-reviewed journal and a conference presentation.

Trial registration number ChiCTR2300069354.

INTRODUCTION

Emotional disorders are a group of psychiatric diseases with anxiety, fear and depression as the primary clinical manifestations,

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This study represents the first randomised controlled trial to examine the efficacy of the Chinese version of the unified protocol for transdiagnostic treatment of emotional disorders in adolescents (UP-A) for adolescents with emotional disorders. Treatment is conducted in a group format with an extra parent group.
- ⇒ The UP-A may enable clinicians to treat participants suffering from the most prevalent psychological comorbidities using a unified protocol, a practice that better approximates the clinical setting.
- ⇒ Multiple dimensions of assessment, including emotional disorder severity, emotional symptoms, emotion regulation, cognitive patterns, executive function, resilience, quality of life, social and family functioning, are performed to evaluate the efficacy of the UP-A more comprehensively.
- ⇒ A 3-month follow-up is conducted to track the short-term effect of different treatment options. A longer term follow-up would be needed to observe whether the improvements of the study outcomes are sustained.

characterised by frequent and intense experiences of negative emotions, posing a notable public health concern.^{1 2} According to Bullis's definition, emotional disorders need to meet the following criteria: (1) frequent and intense experience of negative emotions; (2) aversive reaction to the emotional experience; (3) engagement in efforts to dampen, escape or avoid the emotional experience.² In clinical studies, emotional disorders consist chiefly of depression, anxiety and other related disorders such as dissociative, somatoform and eating disorders, as well as obsessive-compulsive disorder.^{1 3}

Globally, the prevalence of emotional disorders in children and adolescents aged

10–19 years is about 11.78%.⁴ In China, the prevalence of emotional disorders in children and adolescents aged 6–16 years is about 8.7%, while the prevalence of anxiety disorders is 4.7% and the prevalence of depressive disorders is 3%.⁵ Previous studies have demonstrated a high rate of comorbidity in emotional disorders. Among adolescents with depressive disorders, anxiety disorders are the most common comorbidities, ranging from 15% to 75%, while among adolescents with anxiety disorders, comorbid depressive disorders range from 10% to 15%.⁶

Many adolescents with emotional disorders fail to seek treatment due to limited healthcare resources.^{5 7} Therefore, it is necessary to improve the present psychological treatment to make it easier to implement in clinical contexts, better target varying clinical presentations and maintain efficacy in adolescents with emotional disorders. In recent years, researchers have endeavoured to integrate interventions for treating mental disorders, focusing on shared transdiagnostic psychological processes.⁸ Transdiagnostic treatment means using a single protocol to address multiple diagnostic categories or problem categories.⁹

Emotional disorders impose a significant burden on both individuals and families. Depressive disorders persist into early adulthood in 60% of adolescents, and this persistence is associated with severe adverse outcomes, including suicidal self-harm, mental health difficulties and disengagement from education, employment or training.¹⁰ Meanwhile, anxiety disorders can significantly impair the quality of life, not only affecting friendships and family relationships but also impacting the academic performance of individuals.¹¹ Furthermore, there is often a bidirectional effect between family functioning and adolescent emotional disorders.¹²

Currently, several evidence-based treatments are available for emotional disorders, pharmacotherapy and cognitive-behavioural treatment (CBT) are the first-line treatment for adolescent emotional disorders in most countries.^{7 13 14} However, given poor acceptability, tolerability and safety, pharmacological option is limited in adolescents with emotional disorders.¹³ Besides, treatment relationship and adherence often have a crucial impact on treatment outcomes.¹⁵ Regarding CBT, which has received strong empirical support for the treatment of anxiety and depression in youth,¹⁶ also involved some drawbacks. Including high cost, limited accessibility and complexity of operation, single-disorder protocols are often poorly adapted to adolescent emotional disorders with high comorbidity rates, which also cannot better target their family functioning.^{1 17}

Several studies have revealed common features of emotional disorders, including genetic, neural circuit, cognitive patterns, as well as executive function characteristics and similar temperament structures. Regarding genetics, major depression, generalised anxiety disorder and phobias share a similar genetic basis.^{18 19} Regarding neural circuits, prior studies have demonstrated that overactivation of the amygdala and dysregulation of

cortical inhibition of amygdala responses are common neural circuit characteristics in patients with emotional disorders.^{20–22} In regard to cognitive patterns, both worry and brooding cognitive styles appear to operate in anxiety and depression.²³ In terms of executive functioning, patients with emotional disorders exhibit varying degrees of working memory impairment. Moreover, the severity of impaired working memory correlates with the severity of clinical symptoms.^{24 25} Concerning temperament structures, Clark and Watson proposed a tripartite model to explain the symptom overlap and diagnostic comorbidity between anxiety and depression, which posits that emotional disorders share a common component of negative affect.²⁶ In summary, as understanding of emotional disorders deepens, the commonalities among these disorders outweigh the differences, suggesting the possibility of distilling a set of transdiagnostic psychological processes for a unified intervention of emotional disorders.³

Based on the previous explorations of common characteristics of emotional disorders, combined with the theory and methods of CBT, the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders (UP) was developed by Barlow *et al*, which was designed to be applicable to emotional disorders.^{27 28} UP provides patients with a transdiagnostic scheme for all anxiety and unipolar mood disorders, as well as other disorders with significant emotional components.²⁷ Numerous studies have been conducted to demonstrate the efficacy of the UP in adult patients, with effect sizes ranging from medium to large.^{29–32} In 2017, a downward extension of the UP designed for adolescents (ages 13–17) emerged.^{33 34} Similar to the UP, the UP-A by Jill Ehrenreich-May is a flexible, emotional-focused individual CBT programme designed to ameliorate anxiety and depressive symptoms which contains eight core modules.³³ It focuses on developing emotion regulation skills, helping adolescents respond appropriately to various situations and thereby enhancing their resilience, which is closely associated with daily functioning and quality of life in youth.^{33 35 36} Additionally, there is an extra parent module, which is recommended to use as need, usually for 1–3 sessions, aimed at enhancing parental awareness of responding to the adolescent distress and introducing common emotional parenting behaviours and their opposite parenting behaviours.³⁴

The feasibility and efficacy of UP-A have been verified across various countries. Several investigations assessed the preliminary feasibility and effects of an earlier version of the protocol.^{1 37 38} In an initial multiple baseline trial and an open-trial study, which was delivered in an individual format, symptoms of both anxiety and depression were alleviated in adolescent patients.^{1 37} In another study involving 59 adolescents who underwent examination of the separate trajectories of anxiety and depressive symptoms throughout the individual UP-A course, it was found that anxiety and depressive symptoms exhibited similar rates of improvement

during treatment, with anxiety symptoms continuing to improve during 6-month follow-up.³⁸ In 2017, an initial randomised, waitlist-controlled trial of the UP-A involving 51 adolescents demonstrated that the UP-A delivered in an individual format outperformed the waitlist condition at mid-treatment, with a significant treatment effect observed in the UP-A group across all outcome measures at post-treatment.³⁹ In 2020, an initial cluster randomised controlled trial (RCT) evaluated the adapted UP-A as a school-based anxiety and depression universal prevention intervention among 151 students, which was delivered as a group format, results indicated that the individuals with higher baseline emotional symptoms in the UP-A group experienced a significantly greater decrease in depression symptoms compared with the waitlist-control group.⁴⁰

Considering the aforementioned context, our team adapted the UP-A to the Chinese cultural context and subsequently evaluated its feasibility, acceptability and preliminary efficacy results.⁴¹ We have retained all core modules of the UP-A and use them in the order they are provided. Based on this, we implemented two major modifications: (1) we add a parent group which consist of 12 sessions to achieving better family functioning; (2) we delivered the treatment in a group format. Previous studies suggests that group-based applications may achieve greater efficiencies, with group-based UP yielding effects equivalent to individual format.⁴² On this foundation, 24 Chinese adolescents with emotional disorders and their parents completed a 12-week group UP-A intervention, results showed significant decreases in emotional disorder severity ($g=-1.298$ to -1.341) and emotional symptoms ($g=-0.440$ to -1.988) in adolescents, meanwhile, emotion regulation strategies, resilience, functional outcomes, as well as executive function were also improved significantly. Based on previous research of our team, the feasibility, acceptability and preliminary efficacy of the Chinese version of the UP-A have been demonstrated, whereas RCT study is still warranted to confirm these results.

In this study, we aim to conduct the group trans-diagnostic treatment for adolescents with emotional disorders in China and further validate its efficacy in a randomised-controlled setting. We hypothesised that the Chinese version of the UP-A will demonstrate significant therapeutic efficacy among Chinese adolescents with emotional disorders. Compared with treatment as usual (TAU), the combination of UP-A with TAU is expected to yield significant improvements across multiple dimensions, including emotional disorder severity, emotional symptoms, emotion regulation, cognitive patterns, executive function, resilience, quality of life, social and family functioning. Furthermore, we expect these improvements to be sustained at the 3-month follow-up assessment.

METHOD AND ANALYSIS

Study design

The efficacy of UP-A on adolescents with emotional disorders is evaluated in a two-armed, tester-blinded, superiority RCT, including TAU group and the TAU combined with UP-A (UP-A+TAU) group. The trial was registered at the Chinese Clinical Trial Registry prior to commencing recruitment.

The primary and secondary outcomes will be evaluated at baseline (T1), after 4 and 8 weeks of treatment (T2 and T3, respectively), post-treatment (week 12, T4) and 3 months follow-up (T5). The study design followed the Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) guidelines. The study flowchart is shown in figure 1.

Recruitment

Subjects are recruited from the psychiatric outpatient clinic at Peking University Sixth Hospital. Study information is provided to potential participants and their parents at a dedicated screening visit. Since the subjects are minors, informed consent is obtained from both participants and their legal guardians for each participant. Treatment sessions are tentatively scheduled for weekends, with the specific schedule to be finalised after each intervention group is formed.

Inclusion and exclusion criteria

Below are the criteria for enrolment patients: (1) aged 13–17 years; (2) have a principal diagnosis of depressive, and/or anxiety disorders based on the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) (American Psychiatric Association, 2013) and (3) are medication naïve or have stable medication, which means taking equivalent dose for at least 4 weeks before baseline assessment.

The exclusion criteria are as follows: (1) bipolar disorder, psychotic disorders, brain organic disorder, autism spectrum disorders, mental retardation or substance abuse; (2) high risk of suicide; (3) have received systematic cognitive-behavioral therapy previously and (4) vision or hearing impairment.

Randomisation and blinding

Eligible participants will be randomised to either the intervention or control group in order of enrolment until the target sample size is reached. The process of randomisation will be performed by an independent researcher who will not be involved in the other study procedures. SPSS V.25.0 will be used to generate random numbers and corresponding groupings, the sequences will be stored in a password-protected data management system and then the participants will be informed.

The researchers responsible for evaluations will not know the allocated intervention of each participant in any circumstance, and data collected during participant evaluations will not be revealed to the interventionists. In addition, statisticians will be blinded to the groups. The

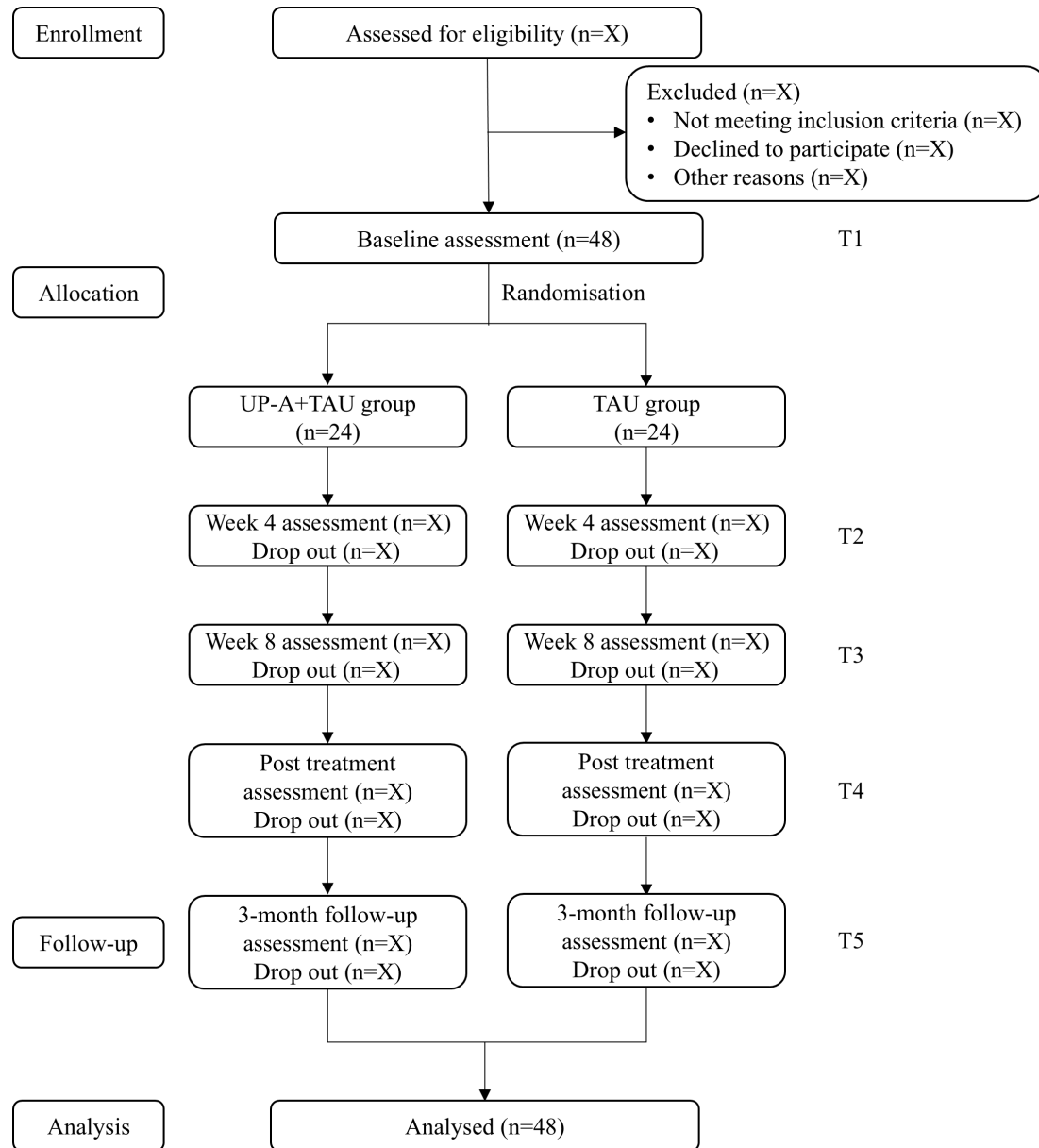


Figure 1 Study flow chart. TAU, treatment as usual; UP-A, the unified protocol for transdiagnostic treatment of emotional disorders in adolescents.

diagnostic and clinical evaluations and executive function assessment were completed by psychiatrists and assessors who had received standardised training. The principal investigator monitors the whole research progress and ensures all steps taken according to the original protocol. The investigators will be uniformly trained and consistency evaluation will be carried out after training. Kappa between assessors is between 0.76 and 0.80 ($p < 0.01$) to ensure the consistency of the researcher's evaluation and meet the research needs.

Sample size

The primary outcome measure is Clinical Global Impression-Severity scale (CGI-S). PASS V.21.0.3 is used to calculate the sample size, based on an alpha of .05 in a two-tailed test, and a beta of .20, according to the results of previous research data, the post-treatment effect size

(Cohen's d) is 1.25 for UP-A,³⁹ the calculation required 15 people in each group. According to previous study,⁴³ we assume the drop-out rate is about 25% during treatment and an estimated drop-out rate of 15% during the follow-up, so the final calculation required 24 people in each group. Therefore, the total sample size is determined at 48.

Adverse events and safety

In our previous pilot study of the UP-A, there were no reports of adverse events.⁴¹ Given the similarities between studies, we anticipate a low likelihood of adverse events in the current trial. Nevertheless, comprehensive safety monitoring procedures have been established. All adverse events will be documented and reviewed by the principal investigator immediately on occurrence. Moderate to severe adverse events will be reported to the Ethics

Committee per reporting requirements. In addition, potential side effects will be assessed at each assessment time point, affected participants will receive appropriate medical care with continuous monitoring until resolution. The research team will evaluate the continuation, suspension or termination of the study based on any adverse events, with timely submission of protocol modifications as needed.

Intervention

The unified protocol for transdiagnostic treatment of emotional disorders in adolescents

The intervention is based on the UP-A by Jill Ehrenreich-May, which is suitable for adolescents aged 13–17 years.³³ It contains eight core modules: (1) building and keeping motivation; (2) getting to know your emotions and behaviours; (3) introduction to emotion-focused behavioural experiments; (4) awareness of physical sensations; (5) being flexible in your thinking; (6) awareness of emotional experiences; (7) situational emotional exposure and (8) reviewing accomplishments and looking ahead.³³ Our research group has localised and modified it to the characteristics of the Chinese adolescent population. Chinese culture emphasises familism, while Western culture prioritises individualism.⁴⁴ Since family is an influential context for adolescent development, parental attitudes and responses moderate adolescents' emotional symptoms.^{12 45} The first modification we made was to add a parent group of 12 sessions, achieving better family functioning. Second, while significant progress has been made in research and healthcare for psychiatric disorders in China, there remains a limited supply and uneven distribution of professional mental healthcare resources, the accessibility of psychological treatments for mental disorders remains challenging.^{46 47} Therefore, considering the constrained treatment resources in China and the necessity for peer support among adolescents,^{48 49} we delivered the treatment in a group format. These modifications could further improve treatment adherence. The intervention is conducted in a specialised clinical setting beyond routine outpatient hours. The main treatment targets of the UP-A are the underlying core dysfunctions of multiple forms of psychopathology, such as negative cognitive assessment, dysregulated emotions and emotional behaviours. The UP-A trained patients in different aspects of emotional awareness, behavioural experimentation, cognitive flexibility and emotional exposure in a group therapy format, respectively. The main structures and contents are shown in [table 1](#).

Each treatment group consists of 6–12 adolescent patients and their parents, and the therapist group consists of three psychiatrists, with two therapists leading the adolescent and parent group separately and one therapist acting like a coleader as well as an observer. Group therapy is conducted once a week and each session lasts 90–120 min. The flow of each session is as follows: (1) adolescents and their parents begin therapy together with review and share (10–15 min); (2) adolescents and

parents then separately learn new training content, including emotion regulation techniques and parenting skills, under the guidance of their respective therapists (75–90 min); (3) finally, adolescents and parents return together for onsite practice and summary (10–15 min). The therapy process is progressive, with interaction and mutual support among group members to jointly promote the improvement of emotional symptoms, emotional regulation, and functioning.

Treatment as usual

TAU is treatment provided by psychiatrists and clinical psychologists in their daily practice. Patients in the TAU condition can typically receive prescription and medication monitoring. In addition, psychological treatments, including empathic listening, supportive counselling and case management, are allowed to receive. Periodic assessment as scheduled to improve adherence. Participants receiving a CBT-related treatment are excluded from the trial.

Demographic and clinical characteristics

A self-designed demographic questionnaire is used to collect sociodemographic and clinical information of participants. This instrument consists of questions concerning gender, age, ethnicity, grade, sibling status, primary caregiver, parental occupation, parental education years, household income, medication use, and physical health status.

Outcome assessment

Diagnostic interview

Chinese version of the Kiddie-Schedule for Affective Disorders and Schizophrenia-Present and Lifetime version Diagnostic and Statistical Manual of Mental Disorders fifth version (K-SADS-PL-C DSM-5):⁵⁰ K-SADS-PL DSM-5 is a semistructured interview using the DSM-5 as the diagnostic criterion to assess psychiatric disorders in children and adolescents aged 6–18 years, which involves 35 diagnoses.⁵¹ It has been translated into Chinese and validated, demonstrating fair to excellent inter-rater (0.54–1.00) and test–retest (0.47–0.89) reliability.

Primary outcome

Clinical Global Impression-Severity scale (CGI-S):⁵² the CGI-S is a 7-point Likert scale (1=not at all ill, 7=maximal impairment). The higher the score, the greater the global severity it is. The CGI-S is a clinician-rated scale commonly used in clinical trials of internalising disorders in youth, and has been used as a primary outcome measure in an RCT of UP-A.^{23 39}

Secondary outcomes

The secondary outcome indicators include the following aspects: emotional symptoms, emotion regulation, cognitive patterns, resilience, executive function, quality of life and social functioning and family functioning. These indicators will be assessed via adolescent self-reports,

Table 1 UP-A treatment components

Module	Title	Session count	Weeks	Content for adolescent	Content for parent
1	Building and keeping motivation	1	1	Build rapport, introduce clients to treatment structure, build problems and goals	Build rapport and introduce treatment structure, psychoeducation about emotions
2	Getting to know your emotions and behaviours	2	2–3	Psychoeducation about emotions, including parts of emotions, their function and avoidance	Establish general awareness and understanding of emotional behaviours in parent–child interaction
3	Introduction to emotion-focused behavioural experiments	1	4	Opposite action, activity tracking, emotion-focused behavioural experience	Introduction to the concept of opposite action and its application in parenting (opposite parenting behaviours)
4	Awareness of physical sensations	1	5	Awareness of physical sensations, body scanning, interoceptive exposures	Awareness of physical sensations, criticism and empathy
5	Being flexible in your thinking	3	6–8	Cognitive distortions and cognitive flexibility, problem-solving	Cognitive flexibility, consistency of rewards and punishment, independence granting
6	Awareness of emotional experiences	1	9	Present-moment awareness, non-judgemental awareness	Present-moment awareness, emotional modelling and scaffolding of skills
7	Situational emotion exposures	2	10–11	Review skills, rationale for exposures, situational exposures	Situational exposures, review opposite parenting behaviours
8	Reviewing accomplishments and looking ahead	1	12	Review, relapse prevention	Review, relapse prevention

UP-A, the unified protocol for transdiagnostic treatment of emotional disorders in adolescents.

parent-reports and examiner-administered evaluations, depending on the specific measure.

Emotional symptoms

Depression Self-Rating Scale for Children (DSRSC):⁵³ the DSRSC is typically used to assess depression of subjects over the past week, it consists of 18 items on a 3-point scale (0–2 points) with a maximum score of 36. This scale is rated by adolescents (Cronbach's $\alpha = 0.79$).

Screen for Child Anxiety-Related Emotional Disorders-Child and Parent Reports (SCARED):⁵⁴ the SCARED is a 41-item child-report and parent-report questionnaire that has been constructed to measure anxiety symptoms in youth, with a total score ranges from 0 to 82. The Chinese version of the SCARED has shown appropriate psychometric properties.⁵⁵ This questionnaire is rated by both adolescents and parents (Cronbach's $\alpha = 0.98$ for adolescents and .97 for parents).

Emotion regulation

Chinese adaptation of Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CCA):⁵⁶ the ERQ-CCA is a self-report instrument that evaluates two

emotion regulation, cognitive reappraisal and expressive suppression. It contains 16 items on a 7-point Likert-type rating scale. This scale is rated by adolescents (Cronbach's α values ranging from .70 to 0.75).

Cognitive Emotion Regulation Questionnaire for children (CERQ-Ck):⁵⁷ the CERQ-Ck is a self-report measure that is used to evaluate nine cognitive emotion regulation strategies of children. It consists of 36 items on a 5-point Likert-type scale. This scale is rated by adolescents (Cronbach's α values of nine scales ranging from .66 to 0.73).

Emotion Regulation Checklist (ERC):⁵⁸ the ERC is a 24-item instrument on a 4-point scale, it is commonly used to assess parent's perspective of child's ability to manage and cope with emotion. It includes subscales of emotional lability/negativity and emotional regulation. This scale is rated by parents (Cronbach's α was 0.76 for the lability/negativity subscale and 0.81 for the emotional regulation subscale).

Cognitive patterns

Children's Automatic Thoughts Scale (CATS):⁵⁹ it contains 40 self-report items on a 5-point scale, covering

a range of emotional content that is used to assess automatic thoughts in youth. Higher scores reflect a greater frequency of negative automatic thoughts. This scale is rated by adolescents (Cronbach's $\alpha = 0.95$).

Executive function

Behaviour Rating Scale of Executive Function (BRIEF) Parent version:⁶⁰ the parent-reported BRIEF was designed to evaluate multidimensional executive function skills of youth. It contains 86 items on a 3-point Likert scale. Higher scores indicate more severe executive dysfunction. This scale is rated by parents (Cronbach's alpha values range from 0.96 to .98).

Rey-Osterrieth Complex Figure Test (ROCF), Stroop Colour and Word Test (SCWT), Trail Marking Test (TMT):^{61–63} those neuropsychological tests are used to evaluate the subject's ability of visuospatial constructional ability and visual memory, selective attention, inhibition, spatial working memory respectively.

Resilience

10-item Connor–Davidson Resilience Scale (CD-RISC-10):⁶⁴ the CD-RISC-10 was designed to assess resilience, it consists of 10 items on a 5-point Likert-type scale, with higher scores representing greater ability to cope with adversity. This scale is rated by adolescents (Cronbach's $\alpha = 0.93$).

Quality of life and social functioning

Paediatric Quality of Life Inventory 4.0 Generic Core Scale (PedsQL 4.0 GCS):⁶⁵ the PedsQL 4.0 GCS is used to measure the quality of life in children and adolescents. It consists of 23 items on a 5-point Likert scale, and comprises of parallel child self-report and parent proxy-report formats. Higher scores indicating better quality of life. In this study, the parent rating scale of adolescent part is used (Cronbach's $\alpha = 0.94$).

Children's Global Assessment Scale (CGAS):⁶⁶ the CGAS is a clinician-rated measure, designed to assess the youth's lowest level of global functioning during previous months. It has a range of 1 (lowest functioning) to 100 (excellent functioning), lower scores reflecting greater functioning impairment.

Family functioning

The short Chinese Egna Minnen av Barndoms Uppfostra (s-EMBU-C):⁶⁷ the s-EMBU-C was designed to assess parenting style, it contains 42 items on a 4-point Likert scale. The higher score reflects that parents are more likely to adopt the corresponding parenting style. This scale is rated by adolescents (Cronbach's α values ranging from 0.74 to .84).

Parenting Stress Index-Short Form (PSI-SF):⁶⁸ the PSI-SF was used to assess parenting stress, it consists of 36 items on a 5-point scale, higher scores are associated with higher levels of parenting stress. This scale is rated by parents (Cronbach's $\alpha = 0.94$).

Family Assessment Device (FAD):^{69 70} the FAD was designed to assess family functioning in multiple

dimensions; it is a 60-item self-report measure and will be completed by both adolescents and parents. Higher scores represent poorer family functioning. This questionnaire is rated by both adolescents and parents (Cronbach's α values ranging from 0.72 to .92).

We summarised all the evaluations and assessing time points in [table 2](#).

Data collection and management

All clinical data, including clinical interviews and questionnaires obtained for this research, will be treated as confidential and securely stored. All written materials are entered using Epidata software. Specialised data entry staff enter the database within 1 week of the original data collection. A prompt supplement and verify are necessary if data are incomplete or unclear. Participant data will be identified by a unique ID number that will be allocated after the participant gives consent to participate in the study. The ID linking the participant's identity or personal details will be stored in a password-encrypted file located at Peking University Sixth Hospital in written and computerised formats. All electronic information will be backed up regularly to avoid loss. Only researchers affiliated with the research will have access to clinic data.

Data analysis

All the data are entered and checked for statistical analysis. All outcome measures will be analysed based on the intention-to-treat principle. Prior to analysis, a master's-level statistician will examine the database. Missing data patterns will be evaluated using Little's Missing Completely at Random (MCAR).⁷¹ If the test indicates no significant patterns of missing data, we will perform multiple imputations (five imputations) on the original dataset to address missing values.

Baseline comparisons between groups for sociodemographic variables will be conducted to ensure comparability. For continuous variables (eg, age), independent t-tests will be used, while categorical variables (eg, gender) will be examined using χ^2 tests. Additionally, baseline comparisons for all primary and secondary outcome measures will be performed using appropriate statistical tests (eg, independent t-tests or non-parametric tests where necessary). Variables showing significant baseline differences will be included as covariates in the subsequent analyses to control for their potential influence. Mixed linear models will be employed to analyse between-group differences across time points for all outcome measures, both primary and secondary outcomes will be included in the analysis. Fixed effects will include time (T1, T2, T3, T4 and T5), group and their interaction, while interindividual differences will be modelled as random effects. To quantify the magnitude of between-group differences, Cohen's d effect sizes will be calculated at each time point. The effect size will be derived by dividing the mean difference between groups by the pooled SD.

Table 2 Evaluations applied at different time points

Measures	Baseline (T1)	Week 4 (T2)	Week 8 (T3)	Post-treatment (T4)	3 month follow-up (T5)
Informed consent	■				
Diagnostic interview	■				
CGI-S	■	■	■	■	■
Emotional symptoms					
DSRSC	●	●	●	●	●
SCARED	★	★	★	★	★
Emotion regulation					
ERQ-CCA	●	●	●	●	●
CERQ-Ck	●	●	●	●	●
ERC	◆	◆	◆	◆	◆
Cognitive patterns					
CATS	●	●	●	●	●
Executive function					
BRIEF	◆			◆	◆
ROCF	■			■	■
SCWT	■			■	■
TMT	■			■	■
Resilience					
CD-RISC-10	●	●	●	●	●
Quality of life and social functioning					
PedsQL 4.0 GCS	◆	◆	◆	◆	◆
CGAS	■	■	■	■	■
Family functioning					
s-EMBU-C	●	●	●	●	●
PSI-SF	■	■	■	■	■
FAD	★	★	★	★	★

■ = clinician-rated measure; ● = adolescent self-report measure; ◆ = parent-rated measure; ★ = measure completed by both parent and adolescent.

BRIEF, Behaviour Rating Scale of Executive Function; CATS, Children's Automatic Thoughts Scale; CD-RISC-10, 10-item Connor–Davidson Resilience Scale; CERQ-Ck, Cognitive Emotion Regulation Questionnaire for children; CGAS, Children's Global Assessment Scale; CGI-S, Clinical Global Impression-Severity scale; DSRSC, Depression Self-Rating Scale for Children; ERC, Emotion Regulation Checklist; ERQ-CCA, Chinese adaptation of Emotion Regulation Questionnaire for Children and Adolescents; FAD, Family Assessment Device; PedsQL 4.0 GCS, Pediatric Quality of Life Inventory 4.0 Generic Core Scale; PSI-SF, Parenting Stress Index-Short Form; ROCF, Rey-Osterrieth Complex Figure Test; SCARED, Screen for Child Anxiety-Related Emotional Disorders-Child and Parent Reports; SCWT, Stroop Colour and Word Test; s-EMBU-C, The short Chinese Egna Minnen av Barndoms Uppfostra; TMT, Trail Marking Test.

Ethics and dissemination

This trial has been approved by the Ethics and Clinical Research Committees of Peking University Sixth Hospital ((2022) Ethics review number (71)) and will be performed in accordance with the Declaration of Helsinki with the Medical Research Involving Human Subjects Act (WMO).

All adolescent participants and their parents will have been properly informed about the study characteristics and objectives previously to study inclusion. They will also be informed about the voluntary nature of participation

and the ability to leave anytime with the guarantee that they will still receive treatment in the clinic.

Patient and public involvement

We recruit participants through online recruitment and distribution of the brochure in outpatient clinics and conduct trials with sufficient information on the study design. We will obtain written informed consent from all the adolescent participants as well as their parents before group allocation. The results will be disseminated in a peer-reviewed journal and a conference presentation.

SPIRIT guidelines

This protocol report uses the SPIRIT reporting guidelines.⁷² The SPIRIT checklist is provided as supplementary material.

DISCUSSION

The present study is the first RCT using the UP-A in Chinese adolescents with emotional disorders with multidimensional assessment. This study has several aims. First, it is an RCT protocol to provide foundation for further verification of the efficacy of the Chinese version of UP-A. Second, the study aims to analyse the efficacy of the UP-A on multidimensional evaluations, including emotional disorder severity, emotional symptoms, emotion regulation, cognitive patterns, executive function, resilience, quality of life and social functioning. Finally, the study aims to investigate the amelioration of family functioning with the UP-A.

This study has the following strengths, including the use of a diagnostically heterogeneous sample, which may closely resemble adolescents encountered in clinical settings. Additionally, the protocol has been tailored for Chinese adolescents, it is possible that the use of the treatment in group format (a more cost-effective format than individual therapy) can help to disseminate and increase the access to this intervention for adolescents, which can also provide adolescents with more opportunities to gain peer supports. Besides, the extended parent module which contained 12 sessions can more effectively address family functioning. Furthermore, considering that the participants are a transdiagnostic group and the presence of other comorbidities, the primary outcome of this study is rated by physicians to ensure that the severity of different diseases can be assessed at the same time, and the blinded evaluators, along with the multidimensional assessments including objective assessments will allow a better and more comprehensively evaluation of patients and their families. Finally, as far as we are aware, this is the first RCT testing the UP-A for Chinese adolescent with emotional disorders. Positive outcomes from this study may contribute to the wider adoption of such transdiagnostic approaches in our country.

This protocol follows evidence-based clinical practice guidelines. The National Institute for Health and Care Excellence (NICE) and the American Academy of Child and Adolescent Psychiatry (AACAP) guidelines identify Cognitive Behavioural Therapy (CBT) as the first-line treatment for emotional disorders in youth, while the WHO guidelines emphasise the necessity of parental skills training in treating adolescent emotional disorders.^{73–77} These align with the core components and therapeutic framework of the UP-A. This protocol will evaluate the efficacy of UP-A in the Chinese cultural context, aiming to provide a standardised and scalable treatment protocol for Chinese adolescents with emotional disorders.

The current study should be interpreted in the context of the following limitations. First, given our limited

resources, we employed a TAU control rather than a specific active comparison. Future studies with a positive control group are recommended. Additionally, we utilised a relatively short follow-up period of 3 months. Future studies should employ extended follow-up periods of 12–24 months to evaluate long-term outcomes. We recommend a standardised follow-up protocol combining clinical assessments and digital monitoring, with strategies to minimise attrition rates.

In summary, this study will conduct an RCT comparing the UP-A against a TAU control in China for adolescents with emotional disorders. Multidimensional assessment, along with a 3 month follow-up, will be employed to study the efficacy of the protocol. Despite these limitations, positive results from this study will contribute to the literature supporting the use of transdiagnostic approaches and offer a promising strategy for addressing emotional disorders among Chinese adolescent.

Author affiliations

¹Institute of Mental Health, Peking University Sixth Hospital, Beijing, China

²National Clinical Research Center for Mental Disorders (Peking University Sixth Hospital), Peking University NHC Key Laboratory of Mental Health, Beijing, China

³Beijing Key Laboratory of Behavior and Mental Health, Peking University School of Psychological and Cognitive Sciences, Beijing, China

Contributors X-YL, MP and QQ conceived the study. Z-FF, LL and Y-FW contributed to the study design. Recruitment and consent will be done by X-YL, MP and XG. X-YL drafted the manuscript. MP and QQ contributed towards critical revision of this manuscript. QQ and MP are cocorresponding authors. QQ is the guarantor of this work. All authors contributed to the revisions of the manuscript.

Funding This study is funded by Beijing Municipal Science & Technology Commission (Z221100007422048) and Beijing Municipal Health Commission Research Ward Programme (3rd batch).

Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iDs

Xue-Ying Liu <http://orcid.org/0009-0008-9976-783X>

Qiujin Qian <http://orcid.org/0000-0001-5060-3772>

REFERENCES

- 1 Ehrenreich JT, Goldstein CM, Wright LR, *et al.* Development of a Unified Protocol for the Treatment of Emotional Disorders in Youth. *Child Fam Behav Ther* 2009;31:20–37.
- 2 Bullis JR, Boettcher H, Sauer-Zavala S, *et al.* What is an emotional disorder? A transdiagnostic mechanistic definition with implications for assessment, treatment, and prevention. *Clin Psychol Sci Pract* 2019;26:e12278.
- 3 Barlow DH, Allen LB, Choate ML. Toward a unified treatment for emotional disorders. *Behav Ther* 2004;35:205–30.
- 4 Kieling C, Buchweitz C, Caye A, *et al.* Worldwide Prevalence and Disability From Mental Disorders Across Childhood and

- Adolescence: Evidence From the Global Burden of Disease Study. *JAMA Psychiatry* 2024;81:347–56.
- 5 Li F, Cui Y, Li Y, et al. Prevalence of mental disorders in school children and adolescents in China: diagnostic data from detailed clinical assessments of 17,524 individuals. *J Child Psychol Psychiatry* 2022;63:34–46.
 - 6 Cummings CM, Caporino NE, Kendall PC. Comorbidity of anxiety and depression in children and adolescents: 20 years after. *Psychol Bull* 2014;140:816–45.
 - 7 Cuijpers P, Eylem O, Karyotaki E, et al. 8 - psychotherapy for depression and anxiety in low- and middle-income countries. In: Stein DJ, Bass JK, Hofmann SG, eds. *Global mental health and psychotherapy*. Academic Press, 2019: 173–92.
 - 8 Mansell W, Harvey A, Watkins E, et al. Conceptual Foundations of the Transdiagnostic Approach to CBT. *J Cogn Psychother* 2009;23:6–19.
 - 9 Marchette LK, Weisz JR. Practitioner Review: Empirical evolution of youth psychotherapy toward transdiagnostic approaches. *J Child Psychol Psychiatry* 2017;58:970–84.
 - 10 Weavers B, Heron J, Thapar AK, et al. The antecedents and outcomes of persistent and remitting adolescent depressive symptom trajectories: a longitudinal, population-based English study. *Lancet Psychiatry* 2021;8:1053–61.
 - 11 Aderka IM, Hofmann SG, Nickerson A, et al. Functional impairment in social anxiety disorder. *J Anxiety Disord* 2012;26:393–400.
 - 12 Mastrotheodoros S, Canário C, Cristina Gugliandolo M, et al. Family Functioning and Adolescent Internalizing and Externalizing Problems: Disentangling between-, and Within-Family Associations. *J Youth Adolesc* 2020;49:804–17.
 - 13 Correll CU, Cortese S, Croatto G, et al. Efficacy and acceptability of pharmacological, psychosocial, and brain stimulation interventions in children and adolescents with mental disorders: an umbrella review. *World Psychiatry* 2021;20:244–75.
 - 14 Lakasing E, Mirza Z. Anxiety and depression in young adults and adolescents. *Br J Gen Pract* 2020;70:56–7.
 - 15 Birmaher B, Brent DA, Benson RS. Summary of the Practice Parameters for the Assessment and Treatment of Children and Adolescents With Depressive Disorders. *J Am Acad Child Adolesc Psychiatry* 1998;37:1234–8.
 - 16 Oar EL, Johnco C, Ollendick TH. Cognitive Behavioral Therapy for Anxiety and Depression in Children and Adolescents. *Psychiatr Clin North Am* 2017;40:661–74.
 - 17 Carlucci L, Saggino A, Balsamo M. On the efficacy of the unified protocol for transdiagnostic treatment of emotional disorders: A systematic review and meta-analysis. *Clin Psychol Rev* 2021;87:101999.
 - 18 Kendler KS, Neale MC, Kessler RC, et al. Major depression and phobias: the genetic and environmental sources of comorbidity. *Psychol Med* 1993;23:361–71.
 - 19 Roy MA, Neale MC, Pedersen NL, et al. A twin study of generalized anxiety disorder and major depression. *Psychol Med* 1995;25:1037–49.
 - 20 Wilamowska ZA, Thompson-Hollands J, Fairholme CP, et al. Conceptual background, development, and preliminary data from the unified protocol for transdiagnostic treatment of emotional disorders. *Depress Anxiety* 2010;27:882–90.
 - 21 Etkin A, Wager TD. Functional neuroimaging of anxiety: a meta-analysis of emotional processing in PTSD, social anxiety disorder, and specific phobia. *Am J Psychiatry* 2007;164:1476–88.
 - 22 Holmes AJ, Lee PH, Hollinshead MO, et al. Individual differences in amygdala-medial prefrontal anatomy link negative affect, impaired social functioning, and polygenic depression risk. *J Neurosci* 2012;32:18087–100.
 - 23 Ewbank MP, Cummins R, Tablan V, et al. Quantifying the Association Between Psychotherapy Content and Clinical Outcomes Using Deep Learning. *JAMA Psychiatry* 2020;77:35–43.
 - 24 Vivan A de S, Rodrigues L, Wendt G, et al. Obsessive-compulsive symptoms and obsessive-compulsive disorder in adolescents: a population-based study. *Rev Bras Psiquiatr* 1999;36:111–8.
 - 25 Patterson MW, Mann FD, Grotzinger AD, et al. Genetic and environmental influences on internalizing psychopathology across age and pubertal development. *Dev Psychol* 2018;54:1928–39.
 - 26 Clark LA, Watson D. Tripartite model of anxiety and depression: psychometric evidence and taxonomic implications. *J Abnorm Psychol* 1991;100:316–36.
 - 27 Barlow DH, Farchione TJ, Fairholme CP, et al. *Unified protocol for transdiagnostic treatment of emotional disorders: therapist guide*. 1st edn. Oxford University Press, 2010.
 - 28 Barlow DH, Farchione TJ, Bullis JR, et al. The Unified Protocol for Transdiagnostic Treatment of Emotional Disorders Compared With Diagnosis-Specific Protocols for Anxiety Disorders: A Randomized Clinical Trial. *JAMA Psychiatry* 2017;74:875–84.
 - 29 Farchione TJ, Fairholme CP, Ellard KK, et al. Unified protocol for transdiagnostic treatment of emotional disorders: a randomized controlled trial. *Behav Ther* 2012;43:666–78.
 - 30 García-Escalera J, Chorot P, Valiente RM, et al. Efficacy of transdiagnostic cognitive-behavioral therapy for anxiety and depression in adults, children and adolescents: A meta-analysis. *Rev Psicopatol Psicol Clin* 2016;21:147–75.
 - 31 Sakiris N, Berle D. A systematic review and meta-analysis of the Unified Protocol as a transdiagnostic emotion regulation based intervention. *Clin Psychol Rev* 2019;72:101751.
 - 32 Osma J, Martínez-García L, Quilez-Orden A, et al. Unified Protocol for the Transdiagnostic Treatment of Emotional Disorders in Medical Conditions: A Systematic Review. *Int J Environ Res Public Health* 2021;18:5077.
 - 33 Ehrenreich-May J, Kennedy SM, Sherman JA, et al. *Unified protocol for transdiagnostic treatment of emotional disorders in adolescents*. Oxford University Press, 2017.
 - 34 Ehrenreich-May J, Kennedy SM, Sherman JA, et al. *Unified protocols for transdiagnostic treatment of emotional disorders in children and adolescents: therapist guide*. 1st edn. Oxford University Press, 2017.
 - 35 Mesman E, Vreeker A, Hillegers M. Resilience and mental health in children and adolescents: an update of the recent literature and future directions. *Curr Opin Psychiatry* 2021;34:586–92.
 - 36 Troy AS, Willroth EC, Shallcross AJ, et al. Psychological Resilience: An Affect-Regulation Framework. *Annu Rev Psychol* 2023;74:547–76.
 - 37 Trosper SE, Buzzella BA, Bennett SM, et al. Emotion regulation in youth with emotional disorders: implications for a unified treatment approach. *Clin Child Fam Psychol Rev* 2009;12:234–54.
 - 38 Queen AH, Barlow DH, Ehrenreich-May J. The trajectories of adolescent anxiety and depressive symptoms over the course of a transdiagnostic treatment. *J Anxiety Disord* 2014;28:511–21.
 - 39 Ehrenreich-May J, Rosenfield D, Queen AH, et al. An initial waitlist-controlled trial of the unified protocol for the treatment of emotional disorders in adolescents. *J Anxiety Disord* 2017;46:46–55.
 - 40 García-Escalera J, Valiente RM, Sandín B, et al. The Unified Protocol for Transdiagnostic Treatment of Emotional Disorders in Adolescents (UP-A) Adapted as a School-Based Anxiety and Depression Prevention Program: An Initial Cluster Randomized Wait-List-Controlled Trial. *Behav Ther* 2020;51:461–73.
 - 41 Pan M-R, Liu X-Y, Gao X, et al. Feasibility, Acceptability, and Preliminary Efficacy of the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders in Adolescents in China: A Pilot Study. *Behav Ther* 2025;56:145–61.
 - 42 Bullis JR JR, Sauer-Zavala S, Bentley KH. The unified protocol for transdiagnostic treatment of emotional disorders: preliminary exploration of effectiveness for group delivery. *Behav Modif* 2015;39:295–321.
 - 43 Hawks JL, Kennedy SM, Holzman JBW, et al. Development and Application of an Innovative Transdiagnostic Treatment Approach for Pediatric Irritability. *Behav Ther* 2020;51:334–49.
 - 44 Leung JT-Y. Overparenting, Parent-Child Conflict and Anxiety among Chinese Adolescents: A Cross-Lagged Panel Study. *IJERPH* 2021;18:11887.
 - 45 Johnco C, Rapee RM. Depression literacy and stigma influence how parents perceive and respond to adolescent depressive symptoms. *J Affect Disord* 2018;241:599–607.
 - 46 Qin X, Hsieh C-R. Understanding and Addressing the Treatment Gap in Mental Healthcare: Economic Perspectives and Evidence From China. *Inquiry* 2020;57:46958020950566.
 - 47 Chang X, Gong Q, Li C, et al. Psychiatric disorders in China: strengths and challenges of contemporary research and clinical services. *Psychol Med* 2021;51:1978–91.
 - 48 Lu J, Xu X, Huang Y, et al. Prevalence of depressive disorders and treatment in China: a cross-sectional epidemiological study. *Lancet Psychiatry* 2021;8:981–90.
 - 49 Weersing VR, Jeffreys M, Do M-CT, et al. Evidence Base Update of Psychosocial Treatments for Child and Adolescent Depression. *J Clin Child Adolesc Psychol* 2017;46:11–43.
 - 50 Dun Y, Li Q-R, Yu H, et al. Reliability and validity of the Chinese version of the kiddie-schedule for affective disorders and schizophrenia-present and lifetime version DSM-5 (K-SADS-PL-C DSM-5). *J Affect Disord* 2022;317:72–8.
 - 51 de la Peña FR, Rosetti MF, Rodríguez-Delgado A, et al. Construct validity and parent-child agreement of the six new or modified disorders included in the Spanish version of the Kiddie Schedule for Affective Disorders and Schizophrenia present and Lifetime Version DSM-5 (K-SADS-PL-5). *J Psychiatr Res* 2018;101:28–33.
 - 52 Guy W. *ECDEU assessment manual for psychopharmacology*. Rockville, MD: U.S. Dept. of Health, Education, and Welfare, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute of Mental Health,

- Psychopharmacology Research Branch, Division of Extramural Research Programs 1976, 1976.
- 53 Birmaher B, Hudson J, Buchanan DG, et al. Clinical evaluation of a self-rating scale for depressive disorder in childhood (Depression Self-Rating Scale). *J Child Psychol Psychiatry* 1987;28:43–60.
 - 54 Birmaher B, Brent DA, Chiappetta L, et al. Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED): a replication study. *J Am Acad Child Adolesc Psychiatry* 1999;38:1230–6.
 - 55 Su L, Wang K, Fan F, et al. Reliability and validity of the screen for child anxiety related emotional disorders (SCARED) in Chinese children. *J Anxiety Disord* 2008;22:612–21.
 - 56 Liu W, Chen L, Tu X. Chinese adaptation of Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CCA): A psychometric evaluation in Chinese children. *Int J Psychol* 2017;52:398–405.
 - 57 Liu W, Chen L, Blue PR. Chinese Adaptation and Psychometric Properties of the Child Version of the Cognitive Emotion Regulation Questionnaire. *PLoS One* 2016;11:e0150206.
 - 58 Shields A, Cicchetti D. Emotion regulation among school-age children: the development and validation of a new criterion Q-sort scale. *Dev Psychol* 1997;33:906–16.
 - 59 Schniering CA, Lyneham HJ. The Children's Automatic Thoughts Scale in a clinical sample: psychometric properties and clinical utility. *Behav Res Ther* 2007;45:1931–40.
 - 60 Gioia GA, Isquith PK, Guy SC, et al. TEST REVIEW Behavior Rating Inventory of Executive Function. *Child Neuropsychol* 2000;6:235–8.
 - 61 Shin M-S, Park S-Y, Park S-R, et al. Clinical and empirical applications of the Rey-Osterrieth Complex Figure Test. *Nat Protoc* 2006;1:892–9.
 - 62 Scarpina F, Tagini S. The Stroop Color and Word Test. *Front Psychol* 2017;8:557.
 - 63 Tombaugh TN. Trail Making Test A and B: normative data stratified by age and education. *Arch Clin Neuropsychol* 2004;19:203–14.
 - 64 Campbell-Sills L, Stein MB. Psychometric analysis and refinement of the Connor-davidson Resilience Scale (CD-RISC): Validation of a 10-item measure of resilience. *J Trauma Stress* 2007;20:1019–28.
 - 65 Varni JW, Seid M, Kurtin PS. PedsQL 4.0: reliability and validity of the Pediatric Quality of Life Inventory version 4.0 generic core scales in healthy and patient populations. *Med Care* 2001;39:800–12.
 - 66 Shaffer D, Gould MS, Brasic J, et al. A children's global assessment scale (CGAS). *Arch Gen Psychiatry* 1983;40:1228–31.
 - 67 Liu Y, Xiao Y, Ran H, et al. Association between parenting and non-suicidal self-injury among adolescents in Yunnan, China: a cross-sectional survey. *PeerJ* 2020;8:e10493.
 - 68 Yuan L, Gao Y, Pan B, et al. Resilience and Related Factors: A Comparison of Fathers and Mothers of Patients With Cleft Lip and/or Palate in China. *Front Psychiatry* 2021;12:791555.
 - 69 Epstein NB, Bishop DS, Levin S. The McMaster Model of Family Functioning. *J Marital Family Therapy* 1978;4:19–31.
 - 70 Miller IW, Epstein NB, Bishop DS, et al. THE McMASTER FAMILY ASSESSMENT DEVICE: RELIABILITY AND VALIDITY*. *J Marital Family Therapy* 1985;11:345–56.
 - 71 Little RJA. A Test of Missing Completely at Random for Multivariate Data with Missing Values. *J Am Stat Assoc* 1988;83:1198–202.
 - 72 Chan A-W, Tetzlaff JM, Gøtzsche PC, et al. SPIRIT 2013 explanation and elaboration: guidance for protocols of clinical trials. *BMJ* 2013;346:e7586.
 - 73 Clark D, Pilling S, Mayo-Wilson E, et al. *Social anxiety disorder: The NICE guideline on the recognition, assessment and treatment of social anxiety disorder*. 2013.
 - 74 World Health Organization. *Mental health gap action programme (mhGAP) intervention guide. Version 2.0*. Geneva: World Health Organization, 2016.
 - 75 Luxton R, Kyriakopoulos M. Depression in children and young people: identification and management NICE guidelines. *Arch Dis Child Educ Pract Ed* 2022;107:36–8.
 - 76 Walter HJ, Bukstein OG, Abright AR, et al. Clinical Practice Guideline for the Assessment and Treatment of Children and Adolescents With Anxiety Disorders. *J Am Acad Child Adolesc Psychiatry* 2020;59:1107–24.
 - 77 Walter HJ, Abright AR, Bukstein OG, et al. Clinical Practice Guideline for the Assessment and Treatment of Children and Adolescents With Major and Persistent Depressive Disorders. *J Am Acad Child Adolesc Psychiatry* 2023;62:479–502.