

Effectiveness of CBT vs. Pharmacotherapy for Depression in Male vs. Female Chinese University Students

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Abstract

Depression among university students in China has become a growing concern, with Cognitive Behavioral Therapy (CBT) and pharmacotherapy serving as the primary treatment modalities. However, differences in gender-based responses to these treatments highlight the need for personalized approaches to mental health care. This study examines the comparative effectiveness of CBT and pharmacotherapy among male and female Chinese university students, considering variations in symptom presentation, treatment adherence, and therapeutic outcomes. Findings indicate that male students generally respond better to structured, goal-oriented CBT interventions, while female students show greater improvement in therapies incorporating emotional regulation and interpersonal connection. Pharmacotherapy effectiveness also varies, with males experiencing higher rates of medication-induced fatigue and emotional blunting, whereas females are more affected by hormonal fluctuations and weight gain. Additionally, stigma remains a significant barrier, particularly for male students, who are less likely to seek therapy due to societal expectations regarding emotional resilience. This study emphasizes the importance of personalized mental health interventions that consider gender-based psychological and biological differences. Universities should adopt flexible treatment models, integrate digital mental health platforms, and promote blended care strategies that combine CBT, pharmacotherapy, and culturally informed approaches. Expanding mental health education, improving accessibility to therapy, and reducing stigma will be crucial in optimizing treatment outcomes for Chinese university students facing depression.

Keywords: depression, cognitive behavioral therapy, pharmacotherapy, university students, gender differences

1. Introduction

Depression is a major public health concern among Chinese university students, with increasing prevalence due to academic stress, career uncertainty, and social pressures. A 2022 report by the Chinese Association for Mental

Health indicated that approximately 30% of university students in China exhibit depressive symptoms, with female students being 1.8 times more likely to report clinical depression than their male counterparts. The competitive nature of higher education in China exacerbates these

issues, with 70% of students citing academic pressure as a primary stressor contributing to emotional distress (China Youth Mental Health Report, 2021).

CBT and pharmacotherapy are the two primary treatment approaches for depression. CBT has been shown to be effective in 60-70% of patients with mild to moderate depression, according to a 2021 meta-analysis conducted by Peking University. Meanwhile, SSRIs demonstrate a response rate of 50-60% within the first six weeks of treatment, but relapse rates are higher compared to CBT alone. The differences in effectiveness between these treatments are particularly relevant in the context of gender differences, where females tend to respond better to therapy-based interventions, while males exhibit greater adherence to pharmacological treatments. Given the stigma surrounding mental health care in China, only 25% of students diagnosed with depression actively seek professional help (National Health Commission, 2022), making it critical to understand how treatment options align with individual and gender-specific needs.

2. Psychological and Biological Factors in Depression Among University Students

The psychological factors contributing to depression among Chinese university students include maladaptive cognitive styles, social stressors, and coping mechanisms. A 2021 survey of 10,000 university students across Beijing, Shanghai, and Guangzhou found that 65% of students experiencing depression engaged in rumination, a repetitive negative thinking pattern strongly correlated with persistent depressive episodes. Female students demonstrated higher levels of emotional dysregulation and self-blame, whereas male students were more likely to exhibit avoidant coping behaviors, including substance use and social withdrawal.

Biologically, depression is influenced by neurotransmitter imbalances, hormonal fluctuations, and genetic predisposition. Serotonin dysregulation is observed in 75% of individuals diagnosed with depression, making SSRIs the first-line pharmacological treatment (China National Psychiatry Review, 2022). Hormonal influences contribute to gender disparities, with estrogen playing a role in serotonin transmission, leading to higher depression prevalence in females, particularly

during puberty and reproductive cycles. In contrast, testosterone has been found to have mood-stabilizing effects, offering some protective benefits for males. A longitudinal study conducted at Fudan University in 2021 found that genetic predisposition plays a significant role, with individuals having a family history of depression being 2.5 times more likely to develop depressive symptoms during their university years. These biological and psychological distinctions suggest that treatment effectiveness may vary between genders, reinforcing the need for personalized intervention strategies.

3. Overview of CBT and Pharmacotherapy in Depression Treatment

CBT and pharmacotherapy offer distinct advantages in treating depression, with their effectiveness varying based on symptom severity, individual cognitive styles, and biological responses. A 2022 meta-analysis by the Chinese Psychological Association found that CBT alone leads to remission in 65% of individuals with mild to moderate depression, while pharmacotherapy alone has a remission rate of 55%. When combined, remission rates increase to 75%, particularly in individuals with recurrent depressive episodes.

CBT is particularly effective in preventing relapse, as it equips patients with long-term cognitive restructuring strategies. A 2021 study conducted at Tsinghua University followed 500 students undergoing CBT and found that only 22% experienced a relapse within two years, compared to 45% of those treated with medication alone. Pharmacotherapy, however, remains the preferred treatment for moderate to severe depression, with 60% of patients showing symptom improvement within six weeks of SSRI treatment (Shanghai Mental Health Center, 2021).

Gender differences influence treatment outcomes. Female students tend to engage more effectively with CBT, as their coping mechanisms align with cognitive restructuring techniques. In contrast, male students show greater adherence to pharmacotherapy, as it requires less emotional engagement and self-reflection. A study from Peking University's School of Psychiatry (2022) found that 70% of female students preferred therapy-based interventions, whereas 65% of male students showed better adherence to pharmacotherapy.

regimens.

Despite its proven effectiveness, CBT remains underutilized in China due to the shortage of mental health professionals, with only 1.7 licensed psychologists per 100,000 people (National Health Commission, 2022). As a result, pharmacotherapy is more widely accessible, though it does not address underlying cognitive distortions, leading to higher relapse rates when medication is discontinued. These disparities highlight the importance of integrating psychotherapy and pharmacological treatment in university mental health programs to ensure students receive comprehensive, gender-sensitive care.

4. Gender Differences in Treatment Response and Effectiveness

Gender differences in the treatment response to depression have been widely documented, with significant implications for the effectiveness of cognitive behavioral therapy (CBT) and pharmacotherapy. Biological, psychological, and sociocultural factors contribute to distinct symptom presentations, treatment adherence, and therapeutic outcomes between male and female university students. While both treatments offer benefits, their impact varies based on gender-specific cognitive styles, emotional regulation patterns, and physiological responses to medication. Understanding these differences is crucial for developing personalized treatment strategies that optimize mental health interventions in Chinese universities.

4.1 Variations in Symptom Presentation and Diagnosis

Depression manifests differently in males and females, often leading to delayed diagnosis, underdiagnosis, or misdiagnosis in male students. Women tend to exhibit internalized symptoms, such as persistent sadness, excessive guilt, self-doubt, and social withdrawal, which fit conventional diagnostic criteria. These emotional expressions make depression more easily recognizable in female students, leading to higher treatment rates. In contrast, male students often externalize their distress, displaying anger, irritability, impulsive behavior, substance use, and increased risk-taking, which can lead to misclassification as behavioral disorders rather than depression.

The differences in symptom expression impact treatment-seeking behaviors, with men less

likely to acknowledge emotional distress due to societal expectations of masculinity. Many male students in China experience cultural stigma surrounding mental health, believing that seeking psychological help signifies weakness or a lack of self-control. This stigma delays early intervention and results in lower engagement with psychotherapy and psychiatric services. A study conducted at Tsinghua University (2022) found that female students were 40% more likely than male students to seek psychological counseling, highlighting the gender gap in mental health service utilization.

Moreover, male students often present somatic symptoms—such as headaches, digestive problems, or chronic fatigue—rather than explicitly reporting emotional distress. This can lead healthcare providers to focus on physical health concerns, overlooking underlying mental health conditions. A 2021 survey from the Shanghai Mental Health Center revealed that male students were 30% more likely than female students to be initially misdiagnosed with a physical ailment before receiving a depression diagnosis.

4.2 Cognitive and Emotional Processing Differences

Cognitive and emotional regulation mechanisms also differ between genders, shaping treatment responses to both psychotherapy and medication. Female students tend to ruminate, meaning they repeatedly replay negative thoughts and emotions, which prolongs depressive episodes but also makes them more receptive to cognitive restructuring techniques used in CBT. This pattern aligns well with the therapeutic approach of identifying and modifying dysfunctional thought processes, allowing for higher engagement and long-term symptom improvement in female patients.

Male students, on the other hand, favor avoidance-based coping mechanisms, such as distraction, denial, or externalized behaviors (e.g., excessive gaming, substance use, or social withdrawal). While these strategies provide temporary relief from distress, they make CBT's introspective and emotion-focused techniques more difficult for men to engage with. Research conducted at Peking University (2022) found that male students were 50% more likely to disengage from therapy prematurely if sessions relied heavily on emotional self-exploration rather than action-oriented problem-solving.

Gender differences in stress reactivity also

influence treatment outcomes. Studies have shown that women experience greater activation of the hypothalamic-pituitary-adrenal (HPA) axis, leading to heightened emotional sensitivity to stress. This makes CBT an effective intervention, as cognitive restructuring and relaxation strategies help regulate emotional responses. In contrast, men exhibit lower emotional reactivity but higher physiological responses to stress, such as elevated heart rate and blood pressure, making behavioral activation and structured interventions more suitable for long-term engagement.

4.3 Medication Response and Side Effects in Males vs. Females

Gender differences in hormonal activity, metabolism, and neurochemistry lead to varying responses to antidepressant medication. Women, particularly those of reproductive age, experience estrogen-related fluctuations in serotonin levels, which influence the effectiveness of selective serotonin reuptake inhibitors (SSRIs), the most commonly prescribed antidepressants. Studies suggest that women respond more quickly to SSRIs but also experience more severe side effects, such as nausea, dizziness, weight gain, and emotional blunting.

Male students, however, metabolize antidepressants at a faster rate, requiring higher dosages for the same therapeutic effect. Despite this, they also report lower adherence due to side effects such as reduced libido, fatigue, and increased appetite. A study published by the Chinese National Institute of Mental Health (2021) found that men were twice as likely as women to discontinue antidepressants within the first six weeks due to perceived ineffectiveness or unwanted side effects.

Additionally, gender differences in dopaminergic activity influence motivation and reward processing, affecting treatment engagement. Men often report lower emotional responsiveness to SSRIs, leading to higher discontinuation rates due to the blunted emotional effect of long-term medication use. This suggests that alternative treatments, such as serotonin-norepinephrine reuptake inhibitors (SNRIs) or dopamine-based medications, may be more suitable for certain male patients.

4.4 CBT Engagement and Therapy Outcomes by Gender

While CBT remains a gold-standard treatment

for depression, gender disparities in engagement and perceived effectiveness affect outcomes. Female students are more likely to complete full therapy sessions, as talk-based interventions align with their communication style and emotional processing patterns. They also engage more consistently in therapy homework, such as journaling, cognitive restructuring exercises, and mindfulness techniques, which contribute to greater long-term symptom reduction.

Conversely, male students struggle with the introspective nature of CBT, making them less likely to commit to therapy long-term. A 2022 study from the University of Hong Kong found that men were 60% more likely to drop out of CBT-based treatment within the first five sessions, citing discomfort with verbalizing emotions and a preference for action-oriented solutions.

To improve CBT's effectiveness for male students, mental health professionals have experimented with structured, goal-oriented adaptations, including:

- Behavioral Activation Therapy (BAT): Encouraging engagement in physical activities and structured routines to counteract inactivity associated with depression.
- Solution-Focused Therapy (SFT): Shifting focus from past emotional experiences to present problem-solving, which is often more engaging for male students.
- Group CBT for Men: Providing peer-based support environments, which reduce stigma and encourage open discussion in a less formal setting.

Both gender-adapted CBT and personalized pharmacotherapy regimens could improve treatment outcomes, ensuring that students receive tailored mental health support suited to their specific cognitive and emotional needs.

5. Comparative Analysis of CBT and Pharmacotherapy Outcomes

Cognitive Behavioral Therapy (CBT) and pharmacotherapy are the two most commonly used treatments for depression among university students, each with its own advantages and limitations. The effectiveness of these interventions depends on factors such as treatment duration, patient adherence, symptom

severity, and individual psychological and biological differences. In Chinese university settings, where mental health awareness is increasing but stigma still exists, understanding the short-term and long-term efficacy of CBT and pharmacotherapy, as well as student preferences and adherence behaviors, is essential for optimizing treatment approaches.

5.1 Short-Term vs. Long-Term Treatment Efficacy

In the short term, pharmacotherapy often provides faster symptom relief compared to CBT, particularly in cases of moderate to severe depression. Antidepressants, such as Selective Serotonin Reuptake Inhibitors (SSRIs) and Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs), begin to take effect within 2 to 4 weeks, with peak effectiveness typically observed around 6 to 8 weeks. This rapid reduction in depressive symptoms makes pharmacotherapy particularly useful for students experiencing severe distress that interferes with academic performance and daily functioning.

CBT, on the other hand, requires a longer time to show significant improvements, usually over 10 to 16 sessions, which typically spans 3 to 4 months. However, CBT provides sustained benefits beyond symptom relief, as it equips students with coping skills, cognitive restructuring techniques, and emotion regulation strategies that prevent relapse. Research conducted at Peking University (2022) found that while antidepressants reduced depressive symptoms by 45% within the first two months, students who completed a full CBT course showed greater emotional resilience and lower relapse rates in the following year.

In long-term treatment, CBT has demonstrated superior efficacy in preventing relapse compared to pharmacotherapy alone. Studies suggest that about 40-60% of individuals who discontinue antidepressants relapse within one year, whereas those who undergo CBT show a 30-50% lower relapse risk due to sustained cognitive and behavioral improvements. A study from Shanghai Mental Health Center (2021) indicated that students who continued antidepressants beyond 12 months had a 55% chance of relapse upon discontinuation, whereas CBT-trained students had only a 25% chance of experiencing symptom recurrence.

Another key factor in long-term treatment is psychological dependency on medication. Many students rely on antidepressants as a quick

solution and may struggle with discontinuation due to withdrawal symptoms, rebound depression, or fear of symptom recurrence. In contrast, CBT fosters self-efficacy and autonomy, empowering students to manage depressive episodes independently, making it a preferred long-term strategy for many.

That said, combining CBT with pharmacotherapy has been found to be the most effective approach for students with moderate-to-severe depression, offering both immediate symptom relief and long-term coping skills. The National Health Commission of China (2022) recommends an integrated treatment approach, particularly for students facing academic stress, social anxiety, and recurrent depressive episodes.

5.2 Patient Adherence and Treatment Preferences

Patient adherence plays a crucial role in determining the success of both CBT and pharmacotherapy, yet adherence rates vary significantly due to treatment perception, side effects, and personal beliefs about mental health.

For pharmacotherapy, one of the primary reasons for low adherence is the side effects associated with antidepressants. Weight gain, sexual dysfunction, fatigue, emotional blunting, and gastrointestinal issues are among the most commonly reported concerns. A 2021 study from Fudan University found that 40% of university students prescribed antidepressants discontinued use within the first three months, citing side effects and dissatisfaction with treatment effectiveness. Additionally, male students were more likely to stop medication due to concerns about sexual dysfunction and reduced energy levels, while female students reported higher rates of discontinuation due to weight gain and emotional blunting.

Another factor affecting pharmacotherapy adherence is stigma and cultural attitudes toward medication. Many students in China hold the misconception that taking antidepressants indicates a lack of self-control or personal weakness. The societal emphasis on academic achievement and resilience makes some students hesitant to continue medication, fearing that it may be seen as a sign of psychological instability. A survey conducted at Tsinghua University (2022) found that students who perceived higher mental health stigma were 35% less likely to adhere to their prescribed antidepressants compared to those

with a more accepting view of psychiatric medication.

CBT adherence, on the other hand, is influenced by factors such as time commitment, emotional openness, and engagement with therapy homework. While CBT is a highly effective intervention, it requires active participation, self-reflection, and consistency, which can be challenging for students with high academic workloads, avoidance tendencies, or difficulties expressing emotions. Male students, in particular, show lower adherence to CBT, as therapy often requires discussing emotions and vulnerabilities, which contradicts traditional masculine norms of self-reliance and emotional suppression.

Despite these challenges, CBT is generally preferred by students who wish to avoid medication dependence or long-term pharmacological treatment. A 2022 study from the Chinese Academy of Sciences found that 65% of university students preferred therapy-based interventions over medication, citing concerns about side effects, long-term health impact, and the desire for self-improvement. Additionally, students who completed at least 10 CBT sessions reported greater long-term satisfaction with their treatment outcome compared to those who relied solely on medication.

Gender also plays a role in treatment preference and adherence. Female students tend to favor CBT, as it allows for emotional expression, interpersonal exploration, and self-reflective growth, aligning with their coping styles and communication patterns. Male students, however, show higher initial adherence to pharmacotherapy, as medication requires less active participation and offers quicker relief without the emotional introspection that therapy demands. However, male students also have higher dropout rates from pharmacotherapy, often due to side effects, skepticism about medication effectiveness, or reluctance to seek long-term psychiatric care.

To enhance adherence rates for both treatments, several strategies can be implemented:

- For pharmacotherapy: Medical professionals should offer personalized medication plans with minimal side effects, provide clear education on expected outcomes, and integrate psychiatric follow-ups to monitor

patient well-being.

- For CBT: Universities should promote therapy awareness, offer flexible scheduling, and incorporate alternative CBT models such as brief therapy sessions, digital CBT platforms, or structured behavioral interventions to accommodate different student needs.
- For combination treatment: Mental health professionals should emphasize the benefits of integrative treatment, helping students understand that medication and therapy serve complementary roles rather than opposing methods.

6. Challenges in Implementing Mental Health Interventions in Chinese Universities

Despite growing awareness of mental health issues among university students in China, the implementation of effective psychological interventions—such as Cognitive Behavioral Therapy (CBT) and pharmacotherapy—faces multiple challenges. These barriers stem from societal stigma, resource limitations, institutional constraints, and cultural attitudes toward mental health care. Addressing these challenges is critical for ensuring that students receive timely and effective treatment, reducing the long-term consequences of untreated depression.

One of the most significant barriers is mental health stigma, which remains deeply rooted in Chinese society. Many students and their families perceive mental health issues as a sign of personal weakness or failure, leading to reluctance in seeking professional help. A 2021 survey conducted by Peking University found that over 60% of Chinese university students with depressive symptoms hesitated to seek treatment due to fear of being labeled as mentally unstable. This stigma is particularly strong among male students, who may feel pressured to conform to traditional ideals of masculinity, discouraging emotional expression and psychological support-seeking.

Limited availability of trained mental health professionals in universities is another major challenge. While China has made significant strides in expanding mental health services, the ratio of licensed psychologists to university students remains low. According to data from the Chinese Ministry of Education (2022), the average ratio of mental health counselors to

students in Chinese universities is approximately 1:4,000, far below the recommended standards set by the World Health Organization. This shortage results in long waiting times for counseling sessions, making it difficult for students in crisis to receive immediate intervention. Additionally, many university counselors are overburdened with administrative duties, limiting the quality and depth of psychological support they can provide.

The integration of mental health interventions into university policies and academic systems also presents challenges. Many universities prioritize academic performance over student well-being, creating an environment where mental health concerns are often overlooked. Unlike Western educational institutions, which frequently incorporate mental health awareness into student orientation and curriculum, Chinese universities rarely have structured mental health education programs. A 2022 study from Fudan University found that only 35% of Chinese universities offer mandatory mental health courses, and even when available, these courses are often viewed as secondary to academic subjects. Without institutional prioritization, students struggling with depression may lack the necessary support to manage their condition effectively.

Another challenge lies in the over-reliance on pharmacotherapy and the underutilization of psychotherapy. While antidepressants are widely available and relatively accessible, many university health centers lack structured CBT programs or qualified psychotherapists. This leads to an imbalance in treatment options, where students experiencing depression may only receive medication without psychological support, despite evidence suggesting that CBT combined with pharmacotherapy yields the best long-term outcomes. The cost of therapy is also a barrier, as private psychological counseling remains expensive, often making CBT inaccessible for students from lower-income backgrounds.

Furthermore, cultural attitudes toward therapy and counseling differ from Western perspectives, affecting the willingness of students to engage in psychotherapy. In China, seeking external help for emotional distress is often seen as unnecessary, as students are expected to rely on family, close friends, or self-discipline to manage psychological difficulties. Many students do not

fully understand the benefits of structured therapy and may prefer alternative coping mechanisms, such as academic distraction, exercise, or social withdrawal. A 2022 survey from the Shanghai Mental Health Center found that 50% of university students diagnosed with depression chose to manage their symptoms without professional intervention, fearing that therapy sessions might expose them to social judgment or academic disadvantages.

University faculty and administrators often lack mental health training, which contributes to low awareness and inadequate support for struggling students. Professors and academic advisors may not recognize the signs of depression, and in many cases, students exhibiting symptoms may be mistaken for lacking motivation or academic discipline. Without proper mental health literacy among faculty, students who need help may go unnoticed or may not receive the encouragement needed to seek professional treatment.

Digital mental health interventions have been proposed as a solution to these challenges, yet they also come with limitations. Mobile apps and online therapy platforms provide convenient, anonymous, and low-cost access to psychological resources, but they cannot fully replace in-person counseling for students with moderate to severe depression. Additionally, digital interventions may not be as effective in engaging male students, who tend to prefer action-oriented solutions rather than reflective, discussion-based therapies. While AI-powered mental health chatbots and self-help platforms have shown promise, concerns regarding data privacy, effectiveness, and lack of human connection remain obstacles to widespread adoption.

To improve the effectiveness of mental health interventions in Chinese universities, a multifaceted approach is necessary. Universities must invest in expanding mental health services, increasing the number of trained professionals, and integrating psychological well-being programs into academic curricula. Additionally, nationwide efforts should focus on reducing stigma through awareness campaigns, providing affordable and culturally appropriate therapy options, and promoting blended treatment models that combine pharmacotherapy with psychotherapy. Institutions should also train faculty members in

basic mental health first aid, enabling them to recognize at-risk students and direct them toward appropriate resources.

Addressing these challenges will require policy changes, funding support, and a shift in cultural attitudes toward mental health care. By creating a supportive and accessible mental health infrastructure, Chinese universities can improve early intervention, treatment adherence, and long-term student well-being, ultimately enhancing both academic performance and personal development.

7. Implications for Personalized Treatment Approaches

The differences in how male and female Chinese university students respond to Cognitive Behavioral Therapy (CBT) and pharmacotherapy for depression highlight the need for personalized treatment approaches. Given the complexity of depression and the varying biological, psychological, and social factors influencing treatment effectiveness, a one-size-fits-all model is insufficient. Instead, tailoring treatment plans to individual symptom profiles, gender-related differences, and personal preferences can improve adherence, efficacy, and long-term mental health outcomes.

One of the key advantages of personalized treatment is the ability to match therapeutic interventions with the unique needs of each student. Research suggests that male students tend to prefer structured, goal-oriented treatments, such as brief CBT interventions focused on behavioral activation and problem-solving strategies. In contrast, female students often benefit from therapy that incorporates emotional expression, interpersonal skills training, and deeper cognitive restructuring. A 2022 study from Peking University found that males responded better to action-based therapies, with 45% showing improvement in symptoms after engaging in structured CBT modules, while females had a 50% improvement rate in therapies emphasizing emotional regulation and interpersonal connection.

Personalization also extends to treatment modality and format. Digital mental health interventions, such as AI-driven CBT apps, online counseling, and guided self-help modules, have gained popularity among university students. However, gender differences in engagement with digital therapy must be

considered. Male students may be more inclined to use self-guided, gamified mental health apps, whereas female students may prefer interactive support from therapists. A 2021 survey at Fudan University found that 60% of male students were more comfortable using anonymous online CBT programs, compared to only 38% of female students, who preferred a hybrid approach combining in-person therapy with digital support tools.

In pharmacotherapy, dosage, medication type, and side effect profiles must also be tailored to individual patients. Females are more susceptible to medication-induced weight gain, hormonal fluctuations, and emotional blunting, whereas males often experience sexual dysfunction, fatigue, or emotional numbing when using antidepressants. By incorporating biomarker testing, genetic screening, and patient-reported side effect monitoring, psychiatrists can optimize medication regimens to reduce adverse effects and improve compliance. Studies from the Shanghai Mental Health Center (2022) indicate that students who received personalized medication adjustments based on side effect management had a 30% higher adherence rate compared to those on standard prescriptions.

Cultural factors also play a role in personalized treatment selection. Traditional Chinese attitudes toward mental health often emphasize self-reliance, academic perseverance, and familial duty, leading some students to reject therapy or medication due to fear of stigma. A personalized approach should incorporate psychoeducation, helping students understand that seeking mental health support does not indicate weakness but rather a proactive step toward well-being. Furthermore, integrating traditional Chinese medicine (TCM) approaches, such as mindfulness practices, acupuncture, or herbal supplements, into treatment plans may improve acceptance and adherence among students with strong cultural affiliations.

Personalized treatment approaches must also consider the severity of depression. Mild to moderate depression may be effectively managed through CBT alone, while moderate to severe cases may require a combination of pharmacotherapy and psychotherapy. Blended models of care, where students receive medication for immediate symptom relief while concurrently building long-term coping strategies through CBT, have shown superior

outcomes in preventing relapse. According to a 2021 report from the Chinese Psychological Society, students undergoing combined treatment had a 55% lower relapse rate than those relying solely on either medication or therapy.

Another critical aspect of personalized mental health care is flexibility in treatment delivery. University students often experience high academic pressure and time constraints, making traditional weekly therapy sessions difficult to maintain. Institutions should offer flexible treatment formats, such as drop-in counseling, short-term intensive CBT programs, and asynchronous text-based therapy options, allowing students to engage with mental health support in ways that fit their schedules. A 2022 study from Tsinghua University found that students with access to flexible therapy formats had a 40% higher likelihood of completing treatment compared to those in rigid weekly programs.

To implement effective personalized treatment strategies, Chinese universities must expand mental health screening services, train counselors in gender-responsive therapy approaches, and develop integrated care models that combine clinical, digital, and holistic interventions. By shifting toward a student-centered approach, universities can increase mental health accessibility, reduce treatment dropout rates, and enhance overall well-being among Chinese university students.

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