The Intervention Effect of Dejian mind-body Therapy on the Psychological Anxiety of College Students in China

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Abstract. Anxiety is common among Chinese college students. This study aims to explore A comprehensive intervention method based on the Chinese Zen theory Dejian Mind-Body Intervention (DMBI) effect of intervention on the anxiety of college students. Thirty college sophomore volunteers were selected to participate in the experiment, and assigned to the experiment and the control groups. The method of single-factor experimental design in the group was adopted, The State-Trait Anxiety Inventory was used as a test tool (STAI Form Y), The subjects were subjected to DMBI intervention exercises for 12 weeks. The experimental results show that: The experimental group adopted the DMBI mode of Chinese traditional health culture, The difference between pre-data and post-test data of state anxiety and trait anxiety in the experimental group was statistically significant ($P<0.05$), The scores of the control group did not fluctuate significantly. Besides, DMBI Group S-AI and T-AI The decline curves of the mean values measured before, during, and after the total score of self-evaluation have similar curvature. In the control group, there was a decrease, But the decline has not been as dramatic as in the DMBI Group. According to this, the following conclusions can be drawn, has a psychological healthcare effect, and the practice of DMBI can effectively reduce the risk of mental ill health and improve the level of mental health. Therefore, DMBI can be used as an effective method to maintain and improve mental health.

Keywords: Dejian Mind-Body Intervention, Anxiety, Chinese college students, Intervene

1 Introduction

The psychological anxiety of college students has become one of the concerns in the field of clinical psychotherapy [1]. Research shows that Long-term mental stress is too much, stress is too strong, paranoid, rebellious, and other negative psychological states,

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in the long run, may cause weariness psychology, breeding world-weariness, and even anti-social behavior [2]. Chinese college students also have different levels of anxiety. Research has shown that among the respondents of Chinese college students, severe anxiety, moderate anxiety, and mild anxiety are respectively 0.9,2.7%, and 21.3% [3]. Given the secondary problems caused by anxiety and the intervention of anxiety in college students, psychologists have paid attention to it earlier, and various intervention means including exercise have been introduced [4].

Intervention in the psychological anxiety of Chinese college students, Researchers have also adopted some interventions based on the Mindfulness-based concept of Eastern Zen culture. Western researchers have been actively endeavoring to harness the positive effects of Zen meditation. Among them, Kabat-Zinn created Mindfulness-based stress reduction, Mindfulness-based cognitive therapy proposed by MBS, Teasdale et al (Mindfulness-based Cognitive Therapy, MBCT) Linehan created Dialectical Behavioral Therapy (DBT), and acceptance and Commitment Therapy and others have been widely used [5] As for anxiety, the use of mindfulness therapy in reducing the psychological anxiety of college students in China has also obtained positive experimental data. However, the above studies also have relatively simple intervention means and generally lack comprehensive intervention programs. therewith, this paper attempts to adopt the Dejian Mind-Body Intervention (DMBI), which is based on the traditional Chinese concept of physical and mental health, as an intervention to reduce the psychological anxiety of Chinese college students.

Dejian Mind-Body Intervention (DMBI) Derived from the ancient Chinese traditional Buddhist cultural system, DMBI refers to Shi Dejian's medical approach to promoting mental and physical health through the Shaolin temple in China (Chanyi) It is a comprehensive physical and mental intervention method which is reintegrated according to the concept of modern physical and mental medicine. Specifically speaking, DMBI includes the following four aspects. First, Chan practice. Second, Dietary monitoring. Third, Mind-body exercises. Fourth, Clearing orifices [6].

The DMBI is a Chinese Chan-based lifestyle intervention that originated from Chanwuyi tradition (i.e., Zen, martial arts, and healing) and was developed based on the traditional Zen martial arts and Zen medicine from the Shaolin Temple [7]. Specifically, it embodies the essence of Chanwuyi theories and practices passed down in the Yonghuatang (the Nanyuan, or Southern Courtyard) headed by a grand master named Shi Dejian (a Shaolin monk), an inheritor of Chanwuyi. The DMBI was developed and named in honor of Shi Dejian by Professor Chan, who integrated Chanwuyi with modern Western brain science, forming a wholesome mind-body intervention. In particular, the DMBI is based on the Neiyanggong, a health exercise derived from Shaolin Qigong. It incorporates Zen meditation, a regulated diet, and Tongqiao (keeping bodily opening healthy), making it a convenient, easy-to-learn, and highly effective intervention, as shown in Table 1. Through a series of mind-body exercises, the DMBI aims to improve physical and psychological health.

Table 1. Main contents of the DMBI

Content	Key Points

Neiyanggong	Xu zhuang (tranquil standing), natural Dan Tian breathing, self-initiated Dan Tian breathing, songjianshi (shoulder relief exercise), moyushi ("catching a fish" exercise), fengbailiu ("willow in the wind" exercise), mubifa (nasal bridge massage), and shougong (closing moves).
Zen meditation	Practicing Zen meditation to improve one's temperament, morality, and compassion.
Regulated diet	A light vegetarian diet that avoids any food items that are strong in smell, made of flesh, spicy, or contain eggs.
Tongqiao	Freeing of clean orifices, freeing of unclean orifices.

The DMBI pursues physical and psychological harmony and renounces practices that only focus on physical symptoms and do not improve the quality of life for patients and their families. Aside from benefiting physical health, it promotes the improvement of mental, ideological, and moral qualities through the development of positive attitudes and behaviors. In this regard, the DMBI is an amalgamation of traditional and relatively unorthodox modern-day psychological, life science, and medical philosophies.

DMBI is not only a system of physical and mental exercise of traditional Chinese cultural elements, but also the basic concept and practice methods of DMBI are very consistent with the composite model of "biological, psychological and social" in modern medicine. therefore, DMBI has wide applicability in the field of clinical psychotherapy. Existing research shows, DMBI has been applied to clinical psychotherapy in different populations. first, DMBI improves brain function in children with ASD, promotes children with ASD frontal lobe and cingulate gyrus Cortical activity, and improves self-control in children with ASD. second, DMBI can improve the depressive mood of adults more effectively, and can effectively improve the sleep quality of depressed patients. Third, The role of DMBI in patients with brain diseases. DMBI improves overall function in patients with epilepsy. Fourth, DMBI can effectively improve the physical and mental health of the elderly, significantly reduce perceived pressure, improve systolic blood pressure, significantly increase walking speed reflecting physical fitness, and reduce sleep disorders. Fifth, the influence of lifestyle interventions advocated by DMBI on memory in older adults. DMBI intervention can significantly enhance memory in the elderly population[8]. The positive outcomes of the above clinical psychology studies indicate the extensive adaptability of DMBI is the basis for exploring the effect of DMBI intervention on the anxiety of college students.

2 Method

2.1 Sample and Participant Selection

The experimental design mainly used the experimental group and the control group to receive DMBI intervention and no intervention respectively. Convenience sampling was used in the experimental group, A total of 15 sophomore college students in a university in Guangdong Province, China, who had the intention of voluntarily learning DMBI, were selected as the experimental group. Among them, 11 are girls and 4 are

boys, The average age is 20 (20.59±0.73) All subjects had never practiced DMBI, were in good physical condition, and had no recent major illnesses. In the control group, 15 college sophomores were recruited by convenience sampling. Among them, 10 were female and 5 were male, with an average age of 21 (21.08±0.98) There was no significant difference between the anxiety state of the experimental group (70.21±17.23) and the control group (69.71±19.19).

Table 2. Characteristics of participants in the control and experimental groups

Characteristics	Control group	Experimental group	t	p-value
Age	21.08±0.98	20.59±0.73	-1.02	0.3179
Gender, male(%)	33.3	26.7	1.15	0.2573
Anxiety state score	69.71±19.19	70.21±17.23	-0.10	0.9215

In addition, for the treatment of informed consent obtained by participants in this study, the purpose and significance of this experimental study were explained to all participants in the experimental group and the control group before the experiment. All participants in the control group indicated that they clearly understood the purpose, significance, and process of the experiment, and voluntarily accepted the relevant test.

2.2 Assessments and Measures

To ensure the scientific validity of the questionnaire, the State-Trait Anxiety Inventory (STAI Form Y) was used as a measuring tool. This scale is one of the most famous mental health test scales in the world. It is simple in content, widely used, and has high and stable reliability and validity, which is suitable for normal people over 16 years old. Spielberger C D. and Gorsuch R L. The state-trait Anxiety Inventory (Sate-Trait Anxiety Inventory. For short STAI) was developed in 1964. The first edition was printed in 1970, STAI (Form X) (Spielberger C D. Gorsuch R L.1970) , The final form of the state Trait Anxiety Scale was developed in 1979——STAI (STAI Form Y). (STAI Form Y) is widely used in scientific research and clinical evaluation, and has shown wide application in pharmacy, dentistry, education, psychology, and other social science research fields. The year 1995, modified the norm of Chinese college students, which makes the scale has strong applicability to Chinese college students. The STAI Form Y consists of 40 questions It involved three aspects of sub-health: physical, psychological, and social relations, and asked the subjects to answer according to their feelings within 12 weeks. The scale is designed according to the results of Chinese norms, and the scoring method No. 1-20 is entitled State Anxiety Inventory (S-AI) , Mainly used to reflect the immediate or recent specific time of fear, tension, anxiety, and neurotic experience or feelings, can be used to evaluate the level of anxiety in stressful situations. Sections 21-40 are entitled Trait Anxiety Inventory (T-AI), Used to rate people's frequent emotional experiences. The full scale was scored on a scale of 1-4 (state anxiety 1- none at all, 2- some, 3- moderate, 4- very significant). For Trait anxiety 1-almost none, 2-some, 3-often, 4-almost always), the subjects choose the most appropriate rating based on their own experience. the cumulative scores of state anxiety and trait anxiety scales were calculated respectively. The minimum value was 20 points

and the maximum was 80 points, the higher the score on a scale, the higher the anxiety level of the subject. It should be noted that all positive emotional items are scored in reverse order, such as, Questions 1, 2, 5, 8, 10, 11, 15, 16, 19, 20, 21, 23, 24, 26, 27, 30, 33, 34, 36, 39 are scored in reverse order.

2.3 Apparatus

DMBI teaching video and corresponding player.

2.4 Statistical Processing

The data obtained from the questionnaire and experiment were processed by SPSS for WINDOWS22.0 statistical software.

3 Experimental Processes

3.1 Pretest

The state-trait anxiety inventory (STAI Form Y) was used to measure all subjects before training, and the physical and mental health status of the subjects before training was calculated.

3. 2 DMBI Training

Under the guidance of the research team members, the subjects in the DMBI experimental group practiced three times every Tuesday, Thursday, and Saturday, 30min/time, for 12 weeks. The control group had no intervention. in the sixth week, the State-Trait Anxiety Inventory (STAI Form Y) was applied to the experimental and control groups.

3.3 After Detection

In the 12th week, all subjects in the experimental group and control group were measured by the state-trait anxiety Inventory (STAI Form Y) after training, and the physical and mental health status of all subjects after training was calculated. In the 12th week, all subjects in the experimental group and control group were measured by the state-trait anxiety scale after training, and the physical and mental health status of all subjects after training was calculated.

3. 4 Before-and-after Comparison

Measurements before and after training were compared to measure the mental health effects of DMBI.

3.5 Statistical Analysis

The main analysis methods used in this study include one-dimensional intra-group analysis of variance, etc. All data were analyzed by SPSS for WINDOWS22.0 statistical software. the specific method is to use the F-test of single factor repeated measurement to verify whether there is a significant difference between the scores of the pre-test and the post-test. If there is a significant difference, the post-test should be theoretically conducted. If $P < 0.05$, the difference was statistically significant. In addition, a T-test was used to compare with the national norm to further verify the intervention effect of DMBI.

4 Research Result

4.1 DMBI Group S-AI and Gets the Packet Spacing Distribution

DMBI Group Participants underwent a 12-week comprehensive intervention, State Trait Anxiety intervention (STAI Form Y) was used for the post-test. Data show (see Table 1), DMBI Group S-AI and T-AI The scores conform to the normal distribution ($X2=6.305$, $P=0.012<0.05$), The results show that the two sets of data have the basic prerequisite for further mathematical statistical analysis. As show in table 3.

Table 3. DMBI Group And control group STAI Form Y Post assessment group distance distribution

Measure	N	Score grouping	frequency	Relative Frequency (%)
State anxiety	15	20-29	0	0
		30-39	4	27
		40-49	6	67
		50-59	3	87
		60-69	2	100
		70-80	0	100
Trait anxiety	15	20-29	0	0
		30-39	6	40
		40-49	5	77
		50-59	3	97
		60-69	1	100
		70-80	0	100

Data source: According to the survey questionnaire

4.2 Analysis of Variance of Pre-Test and Post-Test Results in DMBI Group and Control Group

Levene Test for homogeneity of variance $F=0.420$, $P=0.524>0.05$, We can say that the variance of the two samples is equal. The results of the state-trait anxiety scale before and after intervention were measured by repeated measures. Statistics show (see

Table 2), that the DMBI Group The difference between the pre-test and post-test groups was statistically significant, while no statistically significant difference was observed between the pre-test and post-test groups in the control group. As show in table 4.

Table 4. DMBI Group and the control for single factor variance analysis(x±s)

		Pretest		Post test			
Measure	Group	M	SD	M	SD	Mauchly`s W	subject effects F
State anxiety	DMBI Group (n=15)	32.87	±12.861	21.40	±8.255	0.95	16.12**
	Control Group (n=15)	35.40	±14.107	34.79	±10.912	0.57	2.17
Trait anxiety	DMBI Group (n=15)	27.81	±12.909	21.31	±6.207	0.92	14.32**
	Control Group (n=15)	34.80	±11.107	31.79	±12.738	0.66	2.07

Data source: According to experimental results, it is known

4.3 DMBI Group S-AI and T-AI Change Trend of Mean Value was Measured before, during, and after the Total Score

Figure 1 shows the DMBI Group The mean values of T-AI self-assessment total scores before, during, and after showing a downward trend, The curves of mean value decline of S-AI and T-AI self-rating total scores have similar curvature. There was a decline in the control group, But the decline has not been as dramatic as with DMBI Group T-AI. This trend may reflect changes in participants' subjective feelings or cognitive status during the assessment period. However, it is important to note that the results of the self-rating scale may be influenced by individual subjective factors, so it is necessary to combine objective performance indicators with other objective assessment methods to more fully assess changes in cognitive status or self-perception. In addition, the relative moderation of the decline in the control group may indicate a relative stability in their cognitive status, but this requires more in-depth analysis and further research to confirm.

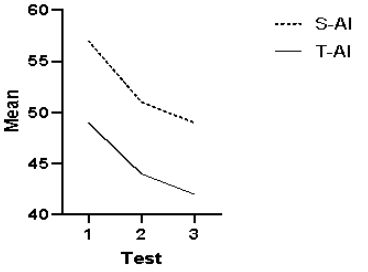

Fig. 1. DMBI Group S-AI and T-AI The mean trend was measured before, during, and after the total score (Data source: According to experimental results, it is known)

5 Results and Discussion

The results of this study showed that the experimental group adopted the DMBI model of Chinese traditional health culture, The difference between pre-test data and post-test data of state anxiety and trait anxiety in the experimental group was statistically significant ($P<0.05$) , The scores of the control group did not fluctuate significantly. In addition, the DMBI experimental group was compared with the Chinese normal control group, The state anxiety and trait anxiety of the experimental group were improved to varying degrees, and the scores were significantly different from the national norms ($P<0.01$) . The evidence shows that DMBI, a traditional Chinese health culture, can effectively relieve the bad mood of college students, DMBI is worthy of clinical promotion in Chinese college students.

Studies have shown that interventions based on cognitive reconstruction and relaxation training have positive effects on the relief of anxiety (Yun Zhao,2011) In addition, exercise cultures from the East, such as yoga, have been reported as interventions to reduce anxiety levels and improve well-being. Relatively speaking, the traditional Chinese health culture DMBI has the following two advantages for the anxiety intervention of Chinese college students. First, for Chinese college students with a certain level of anxiety, this group has a high degree of recognition of traditional Chinese culture. Therefore, the use of DMBI intervention is conducive to guiding college students to correctly view psychological problems and actively cooperate with intervention. Second, many factors cause anxiety among Chinese college students, and the more common factors are exams, interpersonal communication, major changes in life, etc. Therefore, how to make this group maintain a relatively stable state in the fluctuating emotions is crucial, DMBI is based on the concept, that breathing exercises, diet adjustments, and other lifestyle improvements, have strong applicability.

Of course, due to the differences between the sample and the population, as well as the convenience of sampling and small sample size, this study still has obvious shortcomings, that is, the data characteristics reflected by the sample and the conclusions drawn from it have certain limitations. Therefore, the application and promotion of the conclusions of this study should be treated with caution, and the applicable conditions should be paid attention to so that the conclusions of this study can play a positive role as much as possible.

In addition, the intervention system includes Chan practice, Dietary monitoring, Mind-body exercises Clearing orifices, and other four parts. Since DMBI intervention is applied as a whole in this study, further research is needed to determine the role of each component factor of DMBI intervention on the intervention effect of anxiety among Chinese college students. Therefore, for future studies, the contribution rate of different factors in the DMBI system to the anxiety intervention effect of Chinese college students will be the topic of focus in the next stage. In addition, the study can add experimental groups using a variety of intervention methods to treat Chinese college students' anxiety and explore the best and best plan for Chinese college students' anxiety.

6 Conclusion

By its very nature, DMBI is the development and application of Chinese Buddhist Zen culture and health culture in modern society. The traditional Chinese health culture DMBI has a psychological healthcare effect on Chinese college students. The practice of DMBI can effectively reduce the risk of mental anxiety and improve the mental health level of Chinese college students. Therefore, DMBI can be used as an effective method to maintain and improve mental health.

Data Availability

The data supporting this review article are from previously reported studies, which have been cited.

Conflicts of Interest

The authors declare that they have no conflicts of interest regarding the publication of this paper.

Authors' Contributions

Ming-yuan Zhao and Baoshan Qiancontributed equally to the study. Zuzhen Qiao and Jie Zheng acted as co-supervisors and revised the manuscript. Si-Min Huang prepared an outline, supervised, and performed the final revision of the manuscript.

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