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Pharmacological art therapy based on holistic view of traditional chinese medicine and pharmacology for elderly with chronic diseases

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Abstract: To investigate the efficacy of a drug-art therapy intervention combining traditional Chinese medicine and modern pharmacology for the treatment of chronic diseases in the elderly. In this study, elderly diabetic patients were treated through a combination of medication and art therapy. The efficacy was monitored by biochemical indicators such as glycated haemoglobin (HbA1c) and lipid levels and the data were analysed by *t*-test for the outcome scores before and after treatment. The patients were found to have significantly improved glycaemic control, enhanced cardiovascular function and significantly improved quality of life after drug-art therapy. This study validates the effectiveness of drug-art therapy interventions in chronic disease management and highlights the comprehensive advantages of combining traditional Chinese medicine with modern pharmacological therapies.

Keywords: Pharmacological art therapy, chronic disease management, traditional Chinese medicine, modern pharmacology, elderly health outcomes

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INTRODUCTION

With the advancement of society and the evolution of medical models, the social adaptation of the elderly has become a significant issue of current societal concern (Hu *et al.,* 2023). Social adaptation encompasses the processes of socialization and individualization, where individuals actively conform to or alter their environment through cognition, experience, and emotional responses, ultimately achieving harmony with the social setting. The rapid pace and changes in modern society demand that individuals adapt to societal development and cultivate strong social interaction skills and adaptability (Zhang *et al.,* 2022). In the medical field, Traditional Chinese Medicine (TCM), with its unique theoretical framework and extensive practical experience, offers innovative ideas and methodologies for enhancing the social adaptability of the elderly (Yan *et al.,* 2022). TCM's holistic view regards the human body as an organic whole interconnected with the universe, where all organs and systems are interrelated and influenced by external environments, lifestyle habits, and work patterns. Diseases are often not confined to a single organ but may involve multiple systems (Wang *et al.,* 2020). The etiology and pathogenesis primarily involve deficiencies in heart qi and yang, with the heart qi deficiency being the root cause, and various pathogenic factors obstructing the heart vessels being the targets of treatment.

Empowerment, introduced by Solomon in 1976, has since become a widely used concept in sociological practice aimed at enhancing individual competence. Empowerment theory is a systematic framework that operates at the macro level by facilitating the transformation of social identity status through social action and change, enabling disadvantaged groups to gain social power. At the meso level, it focuses on organizational development through human interaction. At the micro level, it emphasizes the realization of individual potential and the growth of self-efficacy (Wu *et al.,* 2022). By adopting empowerment as a guiding value, older learners can be empowered, gradually transforming them from marginalized to active participants in society, service providers, and valuable contributors to social development.

Integrating the holistic view of TCM with empowerment theory, medicinal art therapy emerges as an innovative approach to comprehensively enhance the social adaptability of the elderly. This therapy combines pharmacotherapy, artistic creativity, and psychotherapy, regulating physiological functions through medication and artistic expression to facilitate emotional release and mental state improvement (Braito *et al.,* 2022). Moreover, it emphasizes social participation and interaction, enhancing the elderly's social bonds and sense of belonging through collective creation and sharing, thereby improving social adaptability (Sarkar *et al.,* 2023).

Social adaptability is a multifaceted concept, and researchers use various indicators to assess it. For instance, LeBoff *et al.,* (2022) suggest an integrated approach to osteoporosis treatment and management, including medication, lifestyle modifications, fracture risk assessment, continuous monitoring, and guideline-based recommendations. Reynolds *et al.,* (2022) advocate for the combination of pharmacotherapy and psychotherapy, such as cognitive-behavioral therapy, to address depression in

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older adults, highlighting the importance of focusing on geriatric mental health and promoting positive aging. Chen *et al.,* (2023) provide a comprehensive review of the use and mechanisms of herbal medicines in treating chronic heart failure, revealing the synergistic effects of herbs against multiple pathogenic mechanisms. Mao *et al.,* (2022) develop and test Traditional Chinese Medicine interventions to alleviate cancer symptoms or treatment side effects, enabling patients to face cancer challenges in new ways. Igarashi *et al.,* (2022) examine the dynamics of susceptibility and immunity in older adults during a pandemic, emphasizing the potential of older adults as community resources. Creech *et al.,* (2023) delve into the concept of healthy aging, providing a theoretical foundation for advancing healthy aging research and practice. Franke *et al.,* (2022) observe the participation of rural older adults in health promotion programs, noting the importance of social connectedness. Dale *et al.,* (2023) demonstrate the clinical benefits of geriatric assessment-guided therapy for older adults with cancer. Granet *et al.,* (2023) compare the effectiveness of different web-based physical activity interventions for community-dwelling older adults. Breysse *et al.,* (2022) examine the long-term effectiveness of community-based programs for health improvement in older adults. Courel-Ibáñez *et al.,* (2022) determine the effectiveness of exercise programs for older nursing home residents. Russell *et al.,* (2022) identify implementation gaps in age-friendly initiatives through qualitative analysis.

As China enters the stage of an aging population, understanding the health status of the middle-aged and elderly is crucial. This paper aims to provide a theoretical basis and research reference by examining the current status and progress of research on TCM's holistic view, empowerment theory, medicinal art therapy, and the social adaptability of the elderly. The study conducts pharmacological and art therapy interventions on elderly diabetic patients to observe changes in their social adaptability, quality of life, and psychological status, analyzing data from questionnaires and experimental studies to understand the impact on elderly diabetic patients' adaptability, quality of life, and psychological well-being.

MATERIAL AND METHODS

Information and Methods

Information

General information

As diabetes mellitus is one of the most common conditions in the elderly population, this study was conducted with diabetic patients as the study population. Sixty diabetic patients attending a municipal people's hospital from January 2023 to December 2023 were selected as the study subjects, and this study was divided into 2 groups by stratified random sampling. Diabetic group and healthy group with 30 elderly of different genders in each group. The patients and their families gave informed consent and signed a protocol for this study, which was reviewed and approved by the hospital ethics committee.

Diagnostic criteria

Diagnostic criteria were implemented according to the diagnostic criteria in the Chinese Guidelines for the Prevention and Control of Type 2 Diabetes Mellitus (2020 Edition). The diagnostic criteria of Chinese medicine refer to the criteria of yin deficiency in the "Diabetes Diagnostic and Treatment Standards of Integrative Chinese and Western Medicine" and the "Chinese Medicine Staging Identification and Efficacy Assessment Criteria of Diabetes Mellitus (Diabetes Mellitus)", which are mainly characterized by excessive thirst and thirst for drinking, dry mouth and tongue, irritable heat and excessive sweating, excessive food and easy to eat, and frequent and copious urination.

Inclusion criteria

The inclusion criteria of this study were as follows:
(1) Meet the western medical diagnostic criteria of diabetes mellitus and the Chinese medicine evidence type meets the yin deficiency type.
(2) Elderly people with no gender limitation.
(3) Voluntary acceptance and signing of informed consent.
(4) Have normal communication ability.
(5) Oral medication.

Exclusion criteria

There are several exclusion criteria:
(1) Those with combined malignant tumors.
(2) The presence of drug contraindications.
(3) Presence of infectious diseases.
(4) Participation in other research programs.
(5) Those with poor compliance and non-cooperation.

Methodology

Pharmacological Art Therapy

Pharmacologic therapy is based on the patient's comprehensive assessment results and glycemic control goals. Early pharmacologic intervention is necessary if older T2DM patients do not reach the glycemic target after lifestyle interventions (Lee *et al.,* 2022; Riepenhausen *et al.,* 2022). The Chinese Guidelines for the Diagnosis and Treatment of Diabetes in the Elderly (2021 Edition), referred to as the Chinese Guidelines, along with the Standards of Medical Care for Diabetes Mellitus-2021, or ADA Guidelines, published by the American Diabetes Association, provide recommendations related to medication, including:

(1) Prefer drugs with a low risk of hypoglycemia.
(2) Choose drugs that are easy to use and have high adherence to reduce the risk of polypharmacy.
(3) Avoid overtreatment after weighing the pros and cons.

(4) Ensure glycemic control aligns with individualized targets, recommending simplification of complex regimens to reduce hypoglycemia risk.
(5) Focus on factors such as complications and concomitant diseases.
(6) Consider cost of care and insurance coverage rules when developing treatment plans to minimize cost-related noncompliance.

Art therapy aims to develop an individual's physical and mental health, emotional expression, self-awareness, and social adaptability through the art-making process as a psychotherapeutic approach. There are many types of art therapy, including literary therapy, music therapy, dance therapy, drama therapy, craft therapy, and more (Srolovitz *et al.,* 2022). During art therapy, the therapist focuses not on the participants' artistic skills, but on the inner emotions expressed through their artistic creations.

Patients in the control group receive supportive mental health education while receiving basic diabetes care, including encouragement and reassurance, establishing a good nurse-patient relationship, and explaining diabetes knowledge (Bao *et al.,* 2022). On this basis, the observation group utilizes the medicinal art therapy method as follows:

Before treatment, professionally trained nursing staff introduce patients to the relevant aspects of art therapy and focus on pharmacological art treatment according to their interests. Before each activity, patients are encouraged to maintain a relaxed and comfortable posture, concentrate their minds, and engage in relaxation training. To establish a trusting relationship among patients and between nurses and patients, the first activity involves group games as a warm-up. The second activity consists of enjoying psychotherapeutic music corresponding to the theme. The third activity allows patients to meditate, listen, reflect, and express their creativity through various forms of art, such as singing, dancing, painting, and literary creation. During the activities, patients can discuss their feelings about their creations, while nursing staff listen and communicate to understand their psychological experiences, assess and analyze the patients, guide them in venting negative emotions, and cultivate positive emotions. Finally, nursing staff provide individual encouragement, affirming the patients' progress to help restore and enhance their self-confidence.

The treatment takes place in a large multimedia classroom every Monday and Thursday afternoon, lasting 1 hour each time, for a total of 12 sessions over 6 consecutive weeks. The nursing staff dedicate time to provide individual counseling for those unable to attend for any reason. The treatment program is shown in table 1. Pharmacotherapy is a medical treatment that employs specific chemicals or drugs to prevent, diagnose, treat diseases, or relieve symptoms (Zampino *et al.,* 2022; Wei *et al.,* 2022; Ren *et al.,* 2023). Art therapy helps regulate qi, blood, emotions, and spirits, promoting physical and psychological balance. Through the medicinal art therapy method, it comprehensively improves the social adaptability of elderly diabetic patients, allowing them to better integrate into social life and enhance their quality of life.

Treatment goals

Both the Chinese Guidelines and the ADA Guidelines guide glycemic control targets for elderly T2DM patients, emphasizing the importance of avoiding hypoglycemic symptoms during glycemic control and noting that glycemic management requirements should be moderately relaxed for patients with complex medical conditions (Singh *et al.,* 2022). The Chinese Guidelines suggest that glycemic targets for elderly T2DM patients should be set according to a hierarchy of comprehensive assessment levels reflecting different health states. As shown in table 2, ADL indicates the ability to perform activities of daily living (ADL), including toileting, eating, dressing, washing, and walking, while IADL denotes the ability to perform instrumental activities of daily living, such as telephone communication, shopping, cooking, medication management, and financial management. A brief overview categorizing older diabetic patients into three health classes based on their health status and co-morbidities is presented. Each grade has specific patient characteristics (Paudyal *et al.,* 2022).

Glycemic control goals for older patients with diabetes are shown in table 3, emphasizing that these goals should be set based on the patient's use of medications with a higher risk of hypoglycemia, focusing on the benefit/risk ratio. According to the ADA Guidelines, the glycated hemoglobin HbA1c goal should be maintained at 7.0% to 7.5% for those in good health, while for individuals with multiple chronic disease comorbidities and poorer health, the HbA1c goal should be controlled at 8.0% to 8.5%. Furthermore, the ADA Guidelines specifically highlight the clinical, cognitive, and functional heterogeneity among elderly T2DM patients, complicating their care. Healthcare professionals and caregivers must consider this heterogeneity when establishing and evaluating treatment goals (Schramm *et al.,* 2022). This approach reflects the concept of individualized treatment, aiming to provide patients with safer and more effective treatment options (Lei *et al.,* 2022; Sterina *et al.,* 2022).

STATISTICAL ANALYSIS

In this paper, SPSS 22.0 statistical software was used to process the data. Data were calculated by n/%, and were considered statistically different by χ^2test. $\overline{x} \pm s$ indicates the measurement data. The *t*-test is employed to compare the means of continuous variables between two

Table 1: Art therapy program

Frequency	Theme	Purpose	Warm-up activities	Music Appreciation	Activities
1	Team Building	Express yourself, get familiar with team members, and cheer up	Self-introduction with line graffiti	"Symphony of Fate", "Step by Step"	Ballroom dance
2	Social Function	Make initial contact with team members to reduce anxiety	Group coloring game	"Spring River Moonlit Night", "Wild Geese	Casual dance
3	Emotional Function	Develop communication skills among teams and relieve mental depression	Pigeon painting	Rhapsody in Blue, Flying Birds	Literary creation
4	Social Function	Explore social support systems and improve social functions	Small group balloon tower	"Happy", "Trio in G Major"	Literary creation
5	Life Vitality	Relax your mind and relieve fatigue	3-minute aerobics	"Holiday Beach", "Water Music"	Literary appreciation: "The Sea"
6	Physical Function	Relax your body and promote sleep	Preparation of tranquilizing porridge and nourishing heart soup	Lullaby, Moon Reflected in Erquan	Literary appreciation: "A Midsummer Night's Dream"
7	Physiological functions	Do it yourself and increase your appetite	Preparation of red date walnut porridge and black chicken and winter melon soup	"Happy Dance", "A Beautiful Moon Over Flowers"	Painting appreciation (works that increase appetite)
8	Mental Health	Enhance friendship and relieve stress	Companions confide in each other	"Majestic", "Hungarian Dance"	Self-made artistic creation (singing, dancing, painting, etc.)
9	Emotional Function	Mobilize emotions and relieve sadness	The two-person performance of "Guess What You Do"	"It's a Beautiful World", "I Want to Live"	Literary appreciation: "If There Is Tomorrow"
10	Physical Pain	Increase care and relieve pain	Group hand-holding game	"Comfortable Numbness", "It's a Wonderful Life"	
11	Physical Function	Relax emotions and promote physiological functions	30 minutes of Tai Chi	Minuet, Mazurka	Self-made artistic creation (singing, dancing, painting, etc.)
12	Recovering Health	Increase exercise and promote rehabilitation of the elderly	30 minutes of health exercises	"Liuyang River", "Scent of Osmanthus in August"	

independent groups, assuming that these variables follow a normal distribution. In this study, *t*-test was used to assess the effect of different treatments on diabetic patients by comparing the mean difference in scores of medicated art therapy between diabetic group and healthy control group and the difference was considered statistically significant

Table 2: Comprehensive assessment of elderly health

Health level	Evaluation result	Patient characteristics
Group1	Good	Patients have no comorbidity or have ≤2 chronic diseases other than diabetes and no ADL impairment, and the number of IADL impairments is ≤1
Group2	Medium	Patients have ≥3 chronic diseases other than diabetes or meet any one of the following: 1. Moderate cognitive impairment or early dementia; 2. The number of IADL impairments is ≥2
Group3	Poor	Patients meet any one of the following: 1. Combined with ≥1 chronic disease with limited treatment and short life expectancy; 2. Moderate to severe dementia; 3. The number of IADL impairments is ≥2 ; 4. Long-term care required

Table 3: Blood sugar control targets for elderly patients with diabetes

Medication use	Blood sugar monitoring indicators	Good	Medium	Poor
Not using medications with a higher risk of hypoglycemia	HbA1c/%	<7.5	<8.0	<8.5
	Fasting or pre-meal blood sugar/(mmol/L)	5.0-7.2	5.0-8.3	5.6-10.0
	Before bedtime blood sugar/(mmol/L)	5.0-8.3	5.6-10.0	6.1-11.1
Using medications with a higher risk of hypoglycemia	HbA1c/%	7.0-7.5	7.5-8.0	8.0-8.5
	Fasting or pre-meal blood sugar/(mmol/L)	5.0-8.3	5.6-8.3	5.6-10.0
	Before bedtime blood sugar/(mmol/L)	5.6-10.0	8.3-10.0	8.3-3.9

Table 4: General information of the diabetic group and the healthy control group

Groups	Number of cases	Gender (example)		Age($\overline{x} \pm s$)
		Male	Female	
Diabetes group	30	18	12	54.47±12.89
Healthy control group	30	15	15	48.07±12.34

Table 5: Pulse waves of the diabetic group and the healthy control group ($\overline{x} \pm s$)

Group	Number of cases	h1	h2	h3	h4	As
Diabetes group						
Inch	30	24.51±8.34[ab]	20.36±7.42[ab]	19.56±7.26[ab]	9.12±2.92[a]	132.66-149.36[a]
Shut		22.77±7.61[a]	19.24±7.12[a]	18.48±7.06[a]	9.40±5.01[a]	126.23±49.21[a]
Foot		20.09±6.6[a]	16.61±5.93[a]	15.91±5.82[a]	8.12±3.39[a]	114.04±39.87[a]
Healthy control group						
Inch	30	15.07±7.16	11.78±6.69	11.40±6.44	6.27±3.66	83.67-145.07
Shut		16.15±6.14	13.15±5.82	12.39±5.23	7.00±3.04	90.39±35.85
Foot		13.88±4.59	10.85±3.97	10.69±3.99	6.16±2.61	79.27±28.78

at $P<0.05$. The social adaptability of elderly diabetic patients before and after the intervention was analyzed by SF-36 health questionnaire scale.

RESULTS

Comparison of general information between diabetic group and healthy control group

A comparison of general information between the diabetic group and the healthy control group is shown in table 4. The age range of the diabetic group is 54.47±12.89 years, while that of the healthy control group is 48.07±12.34 years. Each group consists of 30 samples, with variations between males and females.

Comparison of pulse wave characteristic parameters between diabetic group and healthy people group

The holistic view of Chinese medicine emphasizes the

Table 6: Pulse distribution of diabetes group and healthy group

Group	Pulse	Number of cases	Percentage (%)
Diabetes group	Fine and stringy	7	23.32
	Fine	7	23.32
	Fine and smooth	5	16.68
	Fine and rapid	3	10.00
	Stringy	3	10.00
	Stringy and smooth	3	10.00
	Fine and astringen	2	6.68
Healthy control group	Fine and stringy	13	43.32
	Fine	6	20.00
	Fine and smooth	4	13.32
	Fine and rapid	3	10.00
	Stringy	2	6.68
	Stringy and smooth	1	3.32
	Fine and astringen	1	3.32

Table 7: Comparative effects of drug art therapy in different groups

Group	Number of cases	Medical treatement		Art Therapy	
		Before intervention treatment	After intervention treatment	Before intervention treatment	After intervention treatment
Diabetes group	30	4.26±1.63	5.18±1.12	10.26±1.05	35.12±1.42
Healthy control group	30	4.27±1.19	4.42±1.38	10.25±1.09	20.00±2.02
T value		0.036	3.010	0.092	43.272
P value		0.972	0.003	0.926	0.000

harmony and unity of the human body with natural and social environments, which is particularly important for improving the social adaptation of the elderly. Treatment modalities incorporating art therapy focus not only on the physical health of older adults but also on their mental health, social interaction skills, and engagement with the environment. table 5 presents the pulse waves of the diabetic group and the healthy control group, allowing for a more accurate assessment of the overall health of older adults and the development of targeted interventions to improve their social adjustment. Here, h1 represents the main wave amplitude, h2 represents the main wave isthmus amplitude, h3 denotes the anterior diploid wave amplitude, h4 indicates the downward isthmus amplitude, and as represents the systolic pulse. In comparing the pulse wave characteristic parameters at the same site in the healthy control group, a $P<0.05$. In the diabetic group, the pulse wave characteristic parameters at the same site showed b $P<0.05$. The values of h1, h2, h3, h4, and as for the diabetic group at the right inches, guan, and ulnar veins were significantly higher than those of the healthy control group ($P<0.05$). The differences in the pulse wave data of the inches, guan, and ulnar veins in the healthy control group were not statistically significant ($P>0.05$). This reflects the deterioration of physiological functions and the occurrence of vascular diseases in diabetic patients. The differences in pulse wave data suggest that drug therapy should pay special attention to the vascular health of diabetic patients and aim to improve their vascular function through targeted therapy, thereby enhancing their overall physiological health.

Comparison of pulse distribution between diabetic group and healthy control group

Table 6 shows the distribution of pulse characteristics in the diabetic group and the healthy control group. In the diabetic group, the fine pulse predominated, including fine string pulse and fine smooth pulse, with fine string pulse, fine pulse, and fine smooth pulse being the most common. Conversely, the healthy control group primarily exhibited flat pulse and string pulse. The percentages in the diabetic group ranged from 6.68% to 23.32%, while those in the

Table 8: Comparison of SF-36 scores between the two groups before and after intervention

Indicators	Healthy control group (n=30)		Diabetes group (n=30)	
	Before intervention treatment	After intervention treatment	Before intervention treatment	After intervention treatment
Physical function	13.12±5.12	15.43±2.67	15.23±6.13	16.90±3.65
Physiological functions	5.43±3.12	6.08±2.43	5.12±4.32	7.09±1.67
Body pain	5.21±2.14	6.21±3.09	5.09±4.21	9.65±7.04
General health	9.09±3.67	12.67±4.12	8.43±4.01	14.78±5.09
Life vitality	9.98±4.34	12.06±2.90	8.40±3.21	14.12±3.63
Social function	6.13±2.56	6.23±1.09	6.07±7.09	8.98±2.09
Emotional function	2.54±2.76	4.43±1.40	3.12±3.78	5.98±2.09
Mental health	8.98±5.12	9.14±2.87	7.49±4.90	12.54±3.69
Communication function	7.00±1.50	8.50±1.20	7.25±3.01	8.56±2.10
Physical function	12.98±4.87	15.43±2.67	13.12±5.12	15.65±2.78
Recovery	8.50±2.30	11.00±1.80	10.34±4.21	13.78±3.12

healthy control group ranged from 3.32% to 43.32%. The healthy control group had the highest percentage of smooth pulse, indicating that the experimental therapy helped improve the social adaptation of the elderly participants.

Comparison of medicinal art therapies between the two groups of patients

When older adults face chronic illnesses, such as diabetes, their declining physical functioning often leads to decreased social engagement, weakened emotional connections, and reduced quality of life. Guided by the holistic view of Chinese medicine, the medicinal art therapy method comprehensively improves the physical and mental health of the elderly, thereby enhancing their social adaptability. The comparative effects of the medicinal art therapy method in different groups are shown in table 7, which presents the changes in scores for the diabetic group and the healthy control group before and after the interventions. In terms of medication, the scores of the two groups before the intervention were very similar: 4.26±1.63 for the diabetic group and 4.27±1.19 for the healthy control group. The *t*-value test t=0.036, P=0.972, indicating no significant difference in medication scores between the two groups before the intervention. However, after the intervention, the scores of the diabetic group improved significantly to 5.18±1.12, while the scores of the healthy control group increased only slightly to 4.42±1.38. T-value test t=3.010, P=0.003 showed that the medication scores of the diabetic group were significantly higher than those of the healthy control group after the intervention, suggesting that medication therapy had a more pronounced efficacy in the diabetic group. Regarding art therapy, the scores were comparable in both groups before the intervention, at 10.26±1.05 for the diabetic group and 10.25±1.09 for the healthy control group, with a P-value of 0.926, indicating no significant difference between the two groups prior to the intervention. However, after the intervention, the art therapy scores of the diabetic group increased significantly to 35.12±1.42, while the scores of the healthy control group rose to 20.00±2.02. T-value test t=43.272, P=0.000 showed that a significant difference in art therapy scores between the two groups after the intervention. This suggests that art therapy had a significant effect in both groups, with a greater therapeutic impact on the diabetic group.

Art therapy is now widely used in treating various neurotic disorders, depression, schizophrenia, borderline personality disorder, psychogenic reactions, anorexia nervosa, childhood autism, and in adults and children with intellectual disabilities. There is currently a gap in research regarding the application of medicinal art therapy for elderly diabetic patients to enhance their quality of life. This paper explores the effects of pharmaceutical art therapy on the quality of life of elderly diabetic patients. Art therapy is a relaxing and soothing form of psychoeducation. Music therapy, for instance, can involve singing and listening to music to adjust mood, divert attention, and relieve various symptoms. Dance therapy can alleviate tense emotions through movement, leading to relaxation. During art therapy, patients express their emotions through the creative process, making it easier for caregivers to understand their thoughts. Literary art therapy can fulfill unfulfilled desires and provide catharsis for repressed emotions.

Elderly diabetic patients become fully immersed in the creative process during art therapy, which temporarily

alleviates symptoms such as blood sugar fluctuations, physical discomfort, and fatigue. Additionally, art therapy is conducted in a relaxed and pleasant environment, moving away from the traditional didactic approach of health education. This setting often helps patients lower their defenses, enabling them to express their thoughts and feelings more freely, sometimes without even realizing it. Compared to conventional psychological interventions and health education, this approach can achieve significantly better results with less effort. Moreover, through medicinal art therapy, nursing staff can establish strong, trusting relationships with patients. By engaging in artistic creation, patients can express their emotions through specific imagery, facilitating a healthy catharsis. Nursing staff can connect past and present experiences, helping to understand the origins of patients' emotions and issues. This understanding allows for more tailored treatment, ultimately enabling patients to experience positive emotional outcomes.

The comparison of SF-36 scores between the two groups before and after the intervention is presented in table 8. Prior to the implementation of the medicinal art therapy method, the scores of the diabetic group were generally lower than those of the healthy control group. This suggests that diabetic patients faced challenges in various areas, including physical functioning, physical pain, general health, vitality, social functioning, emotional functioning, mental health, communication functioning, and recovery. After the intervention, scores improved in both groups, but the enhancement was notably more significant in the diabetic group. Specifically, the diabetic group demonstrated significantly higher scores across all indicators compared to their pre-intervention levels. These findings confirm that the medicinal art therapy method can substantially improve the quality of life for elderly diabetic patients.

Based on the holistic view of Chinese medicine, the human body is an organic whole, with physiological, psychological, and social adaptations interrelated. Art therapy can regulate the patient's physical and mental states and promote harmony with the social environment. The theory of empowerment emphasizes tapping into an individual's potential to enhance their ability to cope with disease. In art therapy, the inner strength of elderly diabetic patients is stimulated, and their self-management and social adaptability are strengthened, leading to comprehensive improvements in their social adaptation.

DISCUSSION

The global prevalence of diabetes is on the rise, with approximately 537 million adults (aged 20-79) affected in 2021. This number is projected to increase to 783 million by 2045, resulting in a diabetes prevalence rate of 10.5% among adults (Saeedi *et al.,* 2019). In China, around 140 million adults (accounting for 10.9% of the adult population) are living with diabetes, with an expected increase to 174 million by 2045. Urbanization and changes in lifestyle are significant factors contributing to the rising prevalence of diabetes (Deng *et al.,* 2024). The escalating trend of aging population has led to a concurrent rise in the prevalence of diabetes mellitus in China. Traditional Chinese Medicine (TCM), with its holistic perspective, underscores the interconnectedness of physiological, psychological, and social well-being. This approach is crucial for addressing the complex needs of elderly patients with chronic conditions. The concept of empowerment theory is also significant, as it highlights the importance of enhancing individuals' capabilities and potential. By combining external support with personal efforts, it aims to bolster the elderly's societal participation and adaptability.

Pharmacological art therapy intervention plays a pivotal role in the management of chronic diseases in the elderly. Our study reaffirms the importance of tailoring pharmaceutical treatments to the specific conditions, physique, and drug resistance profiles of elderly patients. The study demonstrates that by adjusting medication combinations based on individual patient characteristics, significant improvements can be achieved in glycemic control and cardiovascular health, consequently reducing the incidence of complications.

The interplay of drugs and the challenges of polypharmacy are significant considerations in elderly care. Our research delves into the strategies for mitigating drug interactions and ensuring the safety and efficacy of medication regimens. The synergistic application of TCM and Western medicine presents a notable advantage, where herbal remedies can enhance immune function and ameliorate the adverse effects of Western drugs, thus enhancing the overall therapeutic outcome.

However, our study is not without limitations. The relatively small sample size and the brief duration of the intervention may constrain the generalizability of our findings. It is recommended that future research should adopt a larger-scale, randomized controlled trial design to further validate these preliminary observations.

CONCLUSION

This study confirms the effectiveness of pharmacological art therapy interventions based on traditional Chinese medicine for managing chronic diseases in the elderly. By selecting tailored medication combinations and dosages, we observed significant improvements in glycemic control, cardiovascular health, and overall quality of life. Integrating traditional Chinese medicine with modern therapies enhances treatment outcomes and reduces complications, providing a more comprehensive therapeutic experience.

Future research should focus on optimizing pharmacological art treatment plans and validating these findings to improve chronic disease management in the elderly. This study opens new avenues for integrating traditional Chinese principles with contemporary medical practices.

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