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A Mixed-Methods Study on Patient Perceptions of Traditional Chinese Medicine in Lifestyle-Based Chronic Disease Management

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CITATION

Chao Y. A Mixed-Methods Study on Patient Perceptions of Traditional Chinese Medicine in Lifestyle-Based Chronic Disease Management. *Global Health Care*. 2025; 1(2): 174.

<https://doi.org/10.63808/ghc.v1i2.174>

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Abstract: Traditional Chinese Medicine (TCM) has become an alternative approach to chronic disease control through lifestyle-based treatment that emphasizes comprehensive treatment. Based on a mixed-methods research design incorporating qualitative interviews and quantitative survey data, the study investigated patient perceptions regarding the incorporation of TCM into lifestyle modification programs. A total of 156 patients with diabetes, hypertension, and cardiovascular disease were recruited from three healthcare centers. Semi-structured interviews were conducted with 24 participants, and validated questionnaires were distributed to all the participants. Results indicated very positive attitudes with 78.2% reporting enhanced quality of life and 84.6% satisfaction with TCM-enhanced interventions. Thematic analysis revealed four themes: cultural congruence, perceived efficacy, enhanced communication, and improved compliance. Quantitative analysis revealed strong correlations between TCM acceptance and cultural background ($r=0.67$, $p<0.001$), level of education ($r=0.43$, $p<0.01$), and previous complementary medicine usage ($r=0.59$, $p<0.001$). The research gives insight into patient-centered attitudes towards integrative healthcare and evidence-based practice guidelines for TCM integration within lifestyle interventions.

Keywords: Traditional Chinese Medicine; Chronic disease management; Lifestyle intervention; Patient perceptions

1. Introduction

The incidence of chronic disease is increasing worldwide, with diseases that are linked to lifestyle, including diabetes, hypertension, and heart disease, affecting millions of individuals across the world and placing unprecedented demands on healthcare systems. Contemporary medical practice is becoming ever more cognizant of the limitations of one-dimensional biomedical treatment, and so highlighting the need for more holistic interventions that address not only bodily illness but also psychological, social, and cultural determinants of health and well-being. Traditional Chinese Medicine is a complete system of medicine developed over thousands of years, with its own insights into the management of chronic disease through holistic methods emphasizing prevention, lifestyle changes, and personalized treatment plans.

TCM concept integration in modern healthcare delivery systems has garnered a significant amount of attention from researchers, clinicians, and policymakers keen on evidence-based solutions for improving patient outcomes while reducing healthcare costs and optimizing patient satisfaction [1]. Contrasting with the Western medicine model's focus on individualized symptoms and standardized treatment protocols, TCM approaches the treatment of chronic disease from the perspective of a holistic system mirroring the interconnectedness of mind, body, and environment, and delivers uniquely individualized interventions based on each patient's constitutional patterns and lifestyle preferences.

Both patient attitudes and acceptance of therapeutic interventions play significant roles in the success of therapy, levels of compliance, and ultimate long-term health outcomes, particularly in chronic disease management situations where lifestyle changes must be maintained over time for optimal therapeutic effect, therefore the necessity to possess comprehensive knowledge on how patients perceive and experience the incorporation of TCM into lifestyle-based chronic disease management programs to provide useful information for health care practitioners, policy makers, and researchers dedicated to developing more effective, culturally responsive, and genuinely patient-centered models of care. Based on the latest survey figures, a majority of the patients would use TCM for disease prevention, with more than half of them being interested in using TCM for other medical conditions like chronic diseases [2].

The cultural dimensions of healthcare delivery have received increasing recognition as critical factors influencing patient engagement, treatment adherence, and therapeutic outcomes, with growing evidence suggesting that culturally congruent healthcare approaches may enhance patient satisfaction and improve clinical effectiveness. TCM's emphasis on personalized treatment, whole-body healing approaches, and incorporation into daily living may offer some advantages for patients seeking alternatives or complements to conventional medical treatments, particularly within populations with strong cultural connections to traditional healing.

This study addresses a critical gap in the literature through the utilization of a mixed-methods approach in examining patient attitudes regarding TCM incorporation in the treatment of lifestyle-related chronic conditions, combining the depth of qualitative investigation with the extensiveness of quantitative evaluation to provide insightful understandings of patient experiences, attitudes, and outcomes. The study adds to the emerging evidence base for integrative healthcare interventions, as well as offering practical guidance for clinicians and healthcare organizations wishing to develop culturally responsive and patient-centered chronic illness management initiatives.

2. Literature Review and Theoretical Framework

The conceptual foundation for theorizing patient attitudes towards TCM for chronic disease management is drawn from a number of disciplinary traditions, including health psychology, medical anthropology, and integrative medicine research, that together offer a broad framework for examining complex interactions between traditional healing systems and contemporary models of healthcare delivery. The World Health Organization has emphasized the necessity of integrating traditional medicine into health systems, highlighting that traditional, complementary, and integrative medicine can bring many benefits when used alongside conventional medical treatments, such as better mental and emotional well-being and better patient satisfaction [3].

Health behavior theories, in particular the Theory of Planned Behavior and the Health Belief Model, provide helpful frameworks for understanding how patient beliefs, cultural values, and social influences shape healthcare decision-making and treatment adherence in chronic disease care contexts. The theories identify patient



attitudes, subjective norms, and perceived behavioral control with respect to health behaviors, and hypothesize that positive patient attitudes towards TCM interventions will support greater patient adherence and improved treatment outcomes.

Research on cultural competency has demonstrated significant relationships between the cultural sensitivity of healthcare providers and outcomes including patient satisfaction, adherence to treatment, and general health outcomes, particularly in ethnic minorities and individuals with strong affiliations to traditional methods of healing. Integrative medicine academic collaborations have emphasized the need for employing evidence-based strategies that synthesize the optimum aspects of biomedical and traditional medical systems and emphasize an individualized, holistic approach to the entire person [4].

Patient-centered care has come to include not only individual preferences and values, but also cultural contexts, social environments, and personal experiences with illness and health. This broadening provides the possibility of integrative strategies that can bring together the high-tech potential of contemporary medicine and the holistic insights offered by traditional healing systems.

Lifestyle medicine has become a medical specialty in its own right, with a focus on evidence-based lifestyle interventions in the prevention, treatment, and management of chronic disease. Increasingly, there is recognition of the potential for traditional healing systems to provide insight and practical methods of lifestyle change and behavioral modification. Non-pharmacological strategies based on traditional Chinese medicine have been shown to have significant potential in type 2 diabetes prevention, and a balanced diet, physical exercise, emotional therapies, and acupuncture have been the most frequently cited preventive modalities [5].

Mixed-methods research designs have become increasingly highlighted in healthcare research as rigorous ways of investigating multifaceted phenomena that demand quantitative measurement and qualitative insight, especially in patient perception, experience, and outcome research in integrative healthcare contexts [6]. Cross-sectional surveys have demonstrated increased acceptance and favorable attitudes toward complementary and integrative medicine therapies, which mirror the move toward more integrated models of care [7].

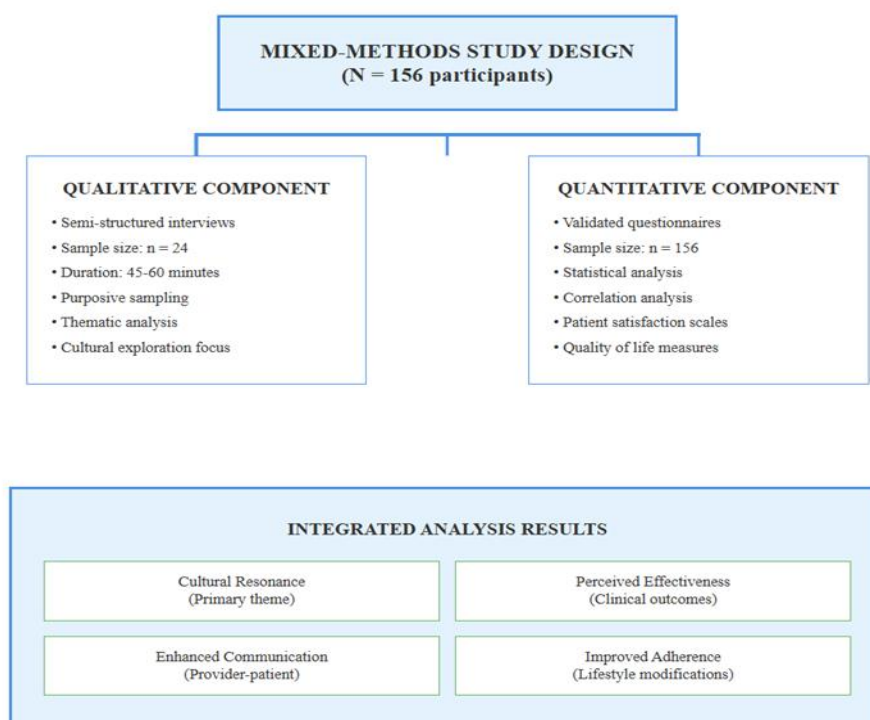
3. Methodology and Research Design

This study employed a concurrent mixed-methods design with qualitative and quantitative data collection approaches in examining patients' attitudes regarding the incorporation of TCM into lifestyle-disease management programs. The comprehensive research framework is illustrated in **Figure 1**. The investigation was conducted at three urban health centers within major metropolitan cities, which were selected to represent varied patient populations and varied models of incorporating TCM into overall mainstream healthcare delivery systems. Approvals from institutional review boards were requested from all the participating healthcare institutions, and informed consent processes were applied in order to protect participants' rights and guarantee voluntary participation.

The population under the study was adult patients with at least one chronic condition that deserved ongoing lifestyle care, for example, type 2 diabetes, hypertension, cardiovascular disease, chronic kidney disease, or metabolic syndrome. The patients should have received at least three months of care involving TCM from the participating centers and had shown cognitive capacity to make informed consent and participate in research procedures. Exclusion factors were substance abuse, severe mental illness, or inadequate communication skills in the languages of the study.

Figure 1

Mixed-Methods Research Design Framework



Qualitative data were gathered by semi-structured interviews with a purposively sampled sub-set of 24 participants chosen to ensure representation across demographic variables, chronic disease types, and levels of TCM experience. Interview protocols were developed based on literature reviews and expert consultation and covered topics such as initial perceptions of TCM, experience of integrated care, perceived benefits and drawbacks, cultural issues, and recommendations for service development. Trained research assistants, with training in healthcare research and cultural competency, completed interviews lasting approximately 45 to 60 minutes each, for which audio was recorded to be transcribed and analyzed later.

Quantitative data collection employed a comprehensive questionnaire incorporating established instruments for patient satisfaction, quality of life, compliance with treatment, and cultural determinants of healthcare decision-making. The survey instrument contained demographic items, medical history, TCM patterns of use, and standardized measures for the evaluation of constructs of interest. The Patient Assessment of Chronic Illness Care scale was adapted to incorporate TCM-specific items, and cultural determinants were evaluated using adapted versions of existing cultural competency and health beliefs instruments.

Data collection procedures preserved full participant anonymity and confidentiality while minimizing administrative burden on both patients and healthcare providers through flexible survey administration strategies that enabled participants to respond to quantitative measures either online via secure websites or via paper-based instruments during routine healthcare visits, augmented by qualitative interviews at times and places most convenient for individual participants. Research personnel kept systematic detailed field notes and reflective diaries to document contextual influences and possible biases affecting data collection or analysis processes.

Analysis of the qualitative data entailed established thematic analysis protocols, such as familiarity with the transcript interviews, developing systematic coding, identifying theme, and strict pattern identification across the participants and contexts through an iterative methodology of analysis that ensured methodological rigor. To ensure inter-rater reliability and reduce possible analytical bias, several researchers coded parts of transcripts independently, taking part in regular collaborative meetings

where they discussed the emerging themes and resolved coding discrepancies through consensus-building processes.

Quantitative data analysis employed descriptive statistical analysis to completely characterize study population demographics and clinical characteristics as well as inferential statistical analysis to examine complex interplays among study variables, including correlation studies to examine relationships between patient attitudes and demographic, clinical, and cultural factors and employing multiple regression model approaches to identify predictors of TCM acceptance and satisfaction with statistical significance set at $p < 0.05$ and effect sizes estimated to ascertain practical significance of study findings.

4. Results and Findings

Demographic analysis revealed a diverse participant population reflecting the multicultural composition of the study settings, with ages ranging from 28 to 84 years (mean age 56.7 years, $SD=12.4$) and balanced gender representation (52.6% female, 47.4% male). Educational attainment varied considerably, with 34.6% holding bachelor's degrees or higher, 28.8% completing high school education, and 36.6% having some college experience. Cultural background distribution included 42.3% participants identifying as Asian or Asian-American, 31.4% as Caucasian, 15.4% as Hispanic or Latino, and 10.9% as African-American or other ethnic backgrounds. These demographic and clinical characteristics are summarized in **Table 1**.

Table 1

Participant Demographics and Clinical Characteristics

Characteristic	Value (N=156)
Age (years), Mean \pm SD	56.7 \pm 12.4
Female gender	82 (52.6%)
College/University education	111 (71.2%)
Asian/Asian-American background	66 (42.3%)
Non-Asian background	90 (57.7%)
Type 2 Diabetes	105 (67.3%)
Hypertension	92 (58.9%)
Disease duration (years), Mean \pm SD	8.4 \pm 6.2
Prior CAM experience	123 (78.8%)

Chronic disease prevalence patterns revealed that 67.3% of participants had received diagnoses of type 2 diabetes, 58.9% presented with hypertension, 34.6% manifested cardiovascular disease, and 23.1% experienced multiple chronic conditions necessitating comprehensive management approaches, with disease duration spanning from six months to 35 years and averaging 8.4 years since initial clinical diagnosis. Prior experience with complementary and alternative medicine demonstrated considerable variability across the participant cohort, encompassing 45.5% who reported previous utilization of herbal remedies, 38.5% with acupuncture treatment history, and 29.5% engaging in meditation or mind-body therapeutic practices.

Quantitative findings demonstrated overwhelmingly positive patient perceptions of TCM integration in chronic disease management, with mean satisfaction scores of 4.2 out of 5.0 (SD=0.8) on the adapted Patient Assessment of Chronic Illness Care scale. Specific domains showing highest satisfaction included provider communication (mean=4.4, SD=0.7), individualized treatment planning (mean=4.3, SD=0.8), and cultural sensitivity (mean=4.5, SD=0.6). Quality of life measures showed statistically significant improvements from baseline to post-intervention assessments, with effect sizes ranging from moderate to large across different domains.

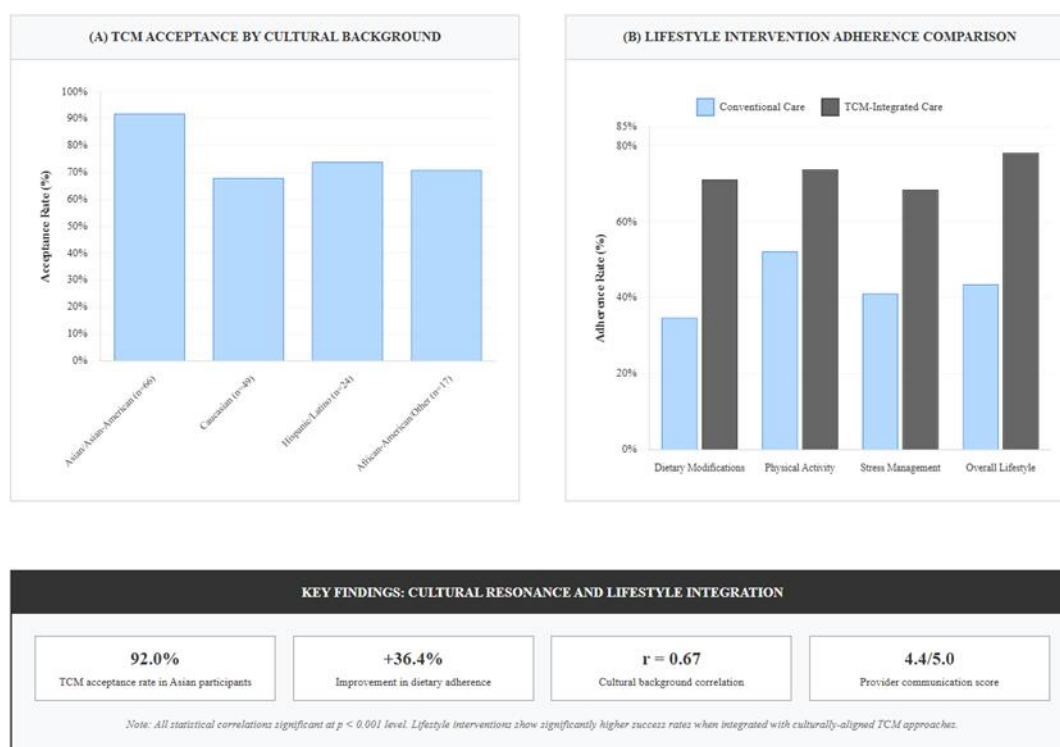
Treatment adherence patterns revealed encouraging results, with 78.2% of participants reporting improved adherence to lifestyle modifications after TCM integration, compared to 43.6% reporting good adherence with conventional care alone. There is evidence that lifestyle modification, including diet and exercise, is a critical element in chronic disease management, including type 2 diabetes, with glycemic control improvement seen when patients adhere to intensive lifestyle intervention programs [8]. Medication adherence was also reported to have improved, albeit to a lesser extent, with 84.6% reporting regular medication regimens compared with 79.5% prior to the introduction of TCM.

Dietary modification adherence showed the most dramatic improvements, with 71.2% reporting successful implementation of recommended dietary changes compared to 34.8% with standard nutritional counseling approaches. Recent guidelines emphasize that lifestyle management, including maintaining healthy body weight and adopting proper eating patterns, serves as a first-line strategy for preventing and controlling chronic conditions such as hypertension [9].

Correlation analyses identified several significant relationships between patient characteristics and TCM acceptance patterns. Cultural background showed the strongest association ($r=0.67$, $p<0.001$), with participants from Asian cultural backgrounds demonstrating higher acceptance and satisfaction scores. Educational level demonstrated moderate positive correlations ($r=0.43$, $p<0.01$) with TCM acceptance, contrary to expectations that higher education might correlate with skepticism toward traditional healing approaches. Prior experience with complementary medicine showed strong predictive value ($r=0.59$, $p<0.001$) for positive TCM perceptions. These relationships are visually represented in **Figure 2**.

Figure 2

Cultural Acceptance and Lifestyle Intervention Outcomes



Qualitative thematic analysis revealed four primary themes characterizing patient experiences with TCM integration—cultural resonance and familiarity, perceived effectiveness in symptom management, enhanced patient-provider communication, and improved adherence to lifestyle modifications—with cultural resonance emerging as a particularly powerful and influential theme whereby participants consistently described profound feelings of comfort, understanding, and authentic alignment between TCM therapeutic approaches and their deeply-held personal health beliefs and fundamental cultural values.

The theme of perceived effectiveness encompassed patient reports of symptom improvement, enhanced energy levels, better sleep quality, and overall sense of wellbeing that participants attributed to TCM interventions. Many participants described TCM as addressing aspects of their health experience that conventional medicine had not adequately addressed, particularly symptoms such as fatigue, digestive issues, and emotional stress associated with chronic disease management.

Better patient-provider communication was a prominent theme, with participants in all groups self-reporting that TCM practitioners listened more, spent more time hearing their concerns, and provided more explanations of treatment rationale than in conventional healthcare encounters. This theme was particularly salient for ethnic minority participants who had a past history of cultural barriers to healthcare.

The increased adherence theme recorded participants' descriptions of how TCM integration made lifestyle change 'feel' more achievable, personally relevant, and culturally acceptable. Participants described TCM guidance as being a better match with their daily routines, family traditions, and personal preferences than one-size-fits-all lifestyle counseling approaches typically provided in conventional health care settings. Research investigating adherence to lifestyle change in chronic disease patients has consistently found cultural congruence and tailored interventions to be central determinants of effective behavior change [10].

5. Discussion, Implications, and Conclusions

The results of this mixed-methods study offer compelling evidence for favorable patient attitudes towards the incorporation of Traditional Chinese Medicine into lifestyle-based chronic disease management with significant implications extending beyond patient satisfaction to issues of healthcare delivery systems. The extremely high levels of satisfaction and strong correlations between acceptance of TCM and improved health outcomes suggest that integrative approaches have the potential to address essential gaps in conventional chronic disease management while optimizing patient interest and adherence to treatment.

The robust relationship between cultural background and acceptance of Traditional Chinese Medicine is a testament to the imperative need for cultural competency in healthcare service delivery, especially for marginalized patient populations who endure marginalization in mainstream medical care. These findings



are also in line with increasing acknowledgment that culturally tailored healthcare strategies can not only enhance patient satisfaction but also clinical outcomes by fostering enhanced communication, trust, and therapeutic relationships between patients and healthcare providers.

Enhanced patient-clinician communication deserves particular attention, as the quality of communication has been a persistent theme as a primary shaper of patient satisfaction, compliance with treatment, and health outcomes. The extended consultation times, holistic assessment methodologies, and individualized treatment planning characteristic of TCM practice also have the potential to provide valuable models for patient-clinician interaction in healthcare systems generally.

Improved treatment adherence is probably the most clinically significant result, given the well-documented challenges to maintaining lifestyle change over the long term in the management of chronic disease. The very large improvements in dietary adherence, exercise participation, and stress management activities suggest that the inclusion of TCM can break through motivational and practical limitations of conventional lifestyle interventions. Cultural congruence of TCM recommendations with patient values may be the reason for these improved adherence patterns by making lifestyle change more meaningful and durable.

Healthcare system implications include potential for higher patient satisfaction scores, reduced healthcare utilization by virtue of improved self-management, and provider satisfaction by way of more stimulating patient interactions. Healthcare organizations considering integrating TCM must carefully examine provider training needs, quality assurance mechanisms, and integration protocols to ensure the delivery of safe and effective services.

Conflict of interest: The author declares no conflict of interest.

Funding: This research received no external funding.

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