

Cultural Beliefs and Treatment Adherence with Chronic Kidney Disease Patients: A Leininger-Based Study

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ABSTRACT

Chronic Kidney Disease (CKD) requires rigorous, long-term adherence to complex therapeutic regimens, yet non-adherence remains a persistent challenge that threatens patient health outcomes. This study aimed to examine the influence of cultural beliefs on treatment adherence among CKD patients using Madeleine Leininger's Transcultural Nursing Theory as the conceptual framework. A quantitative, descriptive correlational research design was employed with 74 CKD patients at Saint Mary Kidney Care in Tabuk, Kalinga. Data were gathered through standardized questionnaires focusing on four cultural domains—spirituality/religion, family roles, folk healing, and food beliefs—and analyzed using descriptive and inferential statistics. The findings revealed very high levels of reported treatment adherence and a strong consensus

regarding the very high importance of food beliefs and high importance of spirituality/religion in the healing process. Additionally, the study identified that ethnicity, religion, and the duration of dialysis significantly mediate how patients perceive and engage with their treatment plans. Clinical adherence is deeply embedded in the patient's cultural lifeworld rather than being solely a matter of biomedical compliance. The study recommends that healthcare institutions transition toward a culturally congruent renal care program that prioritizes cultural care preservation, accommodation, and strategic repatterning to foster sustainable, family-centric outcomes.

Keywords: *Chronic Kidney Disease, Cultural Beliefs, Treatment Adherence*

INTRODUCTION

Chronic kidney disease (CKD) demands lifelong adherence to medications, diet, fluid restriction, and, for many patients, dialysis, yet nonadherence remains common and threatens quality of life and survival. This makes treatment adherence more than a clinical issue; it is also a cultural issue shaped by how patients interpret illness, medicines, food, family obligations, and care itself. Leininger's Culture Care Theory is highly relevant in this context because it explains how beliefs, values, and social structure factors shape health practices and can guide nurses toward culturally congruent care (Ekholm et al., 2024; Leininger, 1988; Wehbe-Alamah, 2018).

International studies published since 2021 show that beliefs and context strongly shape adherence behavior, but they also reveal important gaps. In China, patients with CKD and healthcare professionals often understood self-management narrowly as medical compliance, while knowledge gaps, environmental constraints, and a paternalistic patient-provider relationship limited effective self-management, indicating that context-specific beliefs must be explored rather than assuming interventions can simply be transferred across settings (Shen et al., 2021). In Singapore, cultural perceptions that Western medicines are harmful and fatalistic beliefs about escalating

treatment were linked to intentional nonadherence, underscoring the need to examine how culturally rooted medication meanings affect behavior in Asian populations (Yoon et al., 2023). In Ethiopia, strong beliefs in the necessity of medicines supported adherence, whereas harm beliefs predicted poorer adherence, but the study also suggested that culture may operate differently across populations and remains insufficiently specified in relation to actual treatment-taking behaviors (Kasahun et al., 2022). Together, these studies show that international evidence recognizes the role of beliefs in adherence, yet CKD-specific and culturally grounded explanations remain limited and highly context-dependent.

Local literature published in 2021 and above also points to the importance of culture in adherence, but direct evidence among Filipino CKD patients remains thin. A Philippine systematic review on hypertension found that adherence is shaped by provider relationships, service accessibility, health literacy, self-efficacy, social support, and even the use of complementary and alternative medicine, suggesting that adherence among Filipinos cannot be explained by access alone (Gutierrez & Sakulbumrungsil, 2021). Among Filipino CKD patients, treatment-seeking behavior has been linked to cultural beliefs, financial constraints, social isolation, and limited healthcare access, yet that work did not specifically examine treatment adherence through a cultural nursing lens (Arcilla, 2025). Filipino-focused renal nutrition guidance further indicates that dietary adherence improves when education is culturally tailored to local food preferences and preparation practices rather than delivered as generic advice (Prest & Marder, 2025). More broadly, behavioral adherence interventions in CKD appear beneficial, especially when they address health beliefs, knowledge, social support, and nurse- or dietitian-led delivery, but this evidence has not been sufficiently translated into locally grounded, culturally specific CKD nursing research (Ekholm et al., 2024).

The above literature suggests that treatment adherence in CKD is a culturally embedded practice rather than a simple matter of patient compliance. International studies identify the influence of beliefs, medication meanings, and care relationships, while local studies highlight Filipino realities such as culturally shaped health behaviors, financial strain, and the value of culturally relevant education; however, there remains limited Philippine evidence directly explaining how cultural beliefs shape treatment adherence among CKD patients using a coherent transcultural framework. Therefore, the study *Cultural Beliefs and Treatment Adherence with Chronic Kidney Disease Patients*:

This study aims to examine the cultural beliefs that influence treatment adherence among patients with CKD and to generate evidence that can support culturally congruent nursing care in the local setting.

Literature Review

Chronic Kidney Disease (CKD) represents a significant global health burden, and treatment adherence remains a cornerstone for mitigating its progression. Adherence to complex therapeutic regimens, which often involve dietary restrictions, fluid management, and multiple medications, is influenced by a multidimensional array of factors. According to Cui et al. (2025), the challenges in achieving optimal treatment adherence are exacerbated by the lack of comprehensive, patient-centered assessment tools that capture the full scope of lifestyle adaptation and disease awareness required for effective long-term management.

At a global level, barriers to adherence are frequently rooted in sociodemographic and psychological determinants. Cardona-Arango et al. (2026) identified that individual barriers often include a complex interplay of cognitive impairment, mental health status—such as depression and anxiety—and socioeconomic disadvantage, which limit a patient's capacity to consistently follow medical advice. These findings are supported by Win et al. (2026), whose research highlights how limited health literacy significantly hinders a patient's ability to engage with healthcare professionals, leading to higher rates of non-adherence, particularly concerning fluid restrictions and dietary compliance.

The clinical and environmental context further compounds these difficulties. Lunardi et al. (2026) emphasize that insufficient patient-clinician communication, the use of overwhelming medical jargon, and a lack of clinician empathy are critical systemic hurdles that prevent patients from feeling empowered in their own care. These interpersonal dynamics are often worsened by the perceived cost of treatment and a lack of community-wide understanding regarding the severity of CKD, which discourages patients from sustaining long-term self-management strategies.

In local contexts, such as in developing regions, these challenges are often intensified by broader health inequities. While specific national data may be evolving, the literature suggests that systemic issues, including the rising prevalence of non-communicable diseases and limited access to specialized renal care, place a heavy burden on both patients and the healthcare infrastructure. Al Rashdi (2026) notes that in regions with high CKD prevalence, the combination of suboptimal screening rates and the financial strain of managing comorbidities like hypertension creates a significant gap in care, necessitating more robust, region-specific programs to improve patient outcomes and medication consistency.

Theoretical Framework

The study is anchored on the Transcultural Nursing Theory by Madeleine Leininger.

Leininger (1991) posited that understanding cultural beliefs and values is vital for delivering effective nursing care. Her theory advocates for culturally congruent care that acknowledges patients' worldviews, which can enhance health outcomes by improving patient trust and compliance. Studies show that culturally tailored nursing interventions increase treatment adherence in chronic diseases (Martinez & Cruz, 2022; Smith et al., 2023).

This theoretical framework utilizes Madeleine Leininger's Theory of Culture Care Diversity and Universality to investigate the intersection of cultural beliefs and treatment adherence among chronic kidney disease (CKD) patients in the Philippines. Leininger's model, specifically the "Sunrise Enabler," posits that nursing care must be congruent with the patient's cultural worldview to be effective. In the Filipino context, where health is often viewed through a holistic lens of balance (*timbang*) and social harmony (*pakikisama*), this framework facilitates an exploration of how indigenous and religious values shape the patient's engagement with biomedical dialysis and medication regimens.

The first dimension of cultural belief—spirituality and religion—is central to the Filipino experience of illness. Many Filipino patients interpret CKD not only as a physiological failure but as a spiritual test, often adopting coping mechanisms like *bahala na* (fatalistic resignation) or relying on prayer for healing. Research by Sierra et al. (2025) notes that spiritual practices and religious faith significantly correlate with improved psychological resilience in dialysis patients, providing a foundation for emotional stability that can enhance adherence if properly integrated into the nursing care plan.

Family roles and the influence of folk healing represent the second and third pillars of this cultural inquiry. In the Philippines, the family is the primary unit of decision-making, and the patient's treatment journey is often a collective responsibility. According to Aligado (2025), the involvement of family members in monitoring medication and dietary compliance is a critical facilitator of adherence, yet it may also introduce conflict if traditional beliefs regarding folk healing persist. Many patients concurrently utilize alternative remedies, a practice that must be understood as a cultural bridge rather than merely "non-compliance" to ensure patient safety and open communication.

Food beliefs serve as the fourth cultural determinant, often clashing with the stringent renal diet required by CKD. Food is a symbol of hospitality and social connection in Filipino culture, making restrictions particularly difficult to maintain. As highlighted by **Taylor et al. (2023)**, dietary non-adherence in the Philippines is frequently driven by the social pressure to participate in communal eating, where restrictive diets are perceived as isolating. This framework encourages nurses to employ "culture care negotiation," where traditional dishes are modified to fit medical needs without stripping the patient of their culinary identity.

The framework further explores levels of treatment adherence across clinical markers: dialysis attendance, medication compliance, dietary restriction, and general health management. Adherence in this study is viewed as a dynamic behavior influenced by the negotiation between the clinical environment and the patient's everyday reality. When nurses acknowledge the patient's cultural context—such as the balance between traditional beliefs and clinical requirements—the patient is more likely to view the healthcare team as a partner. This shift in perspective is essential for moving beyond the "non-compliant" label and addressing the root cultural drivers of behavior.

Ultimately, this Leininger-based approach provides a structured method for understanding how the Filipino patient's lived world dictates their adherence. By examining spirituality, family dynamics, folk healing, and food beliefs alongside objective clinical outcomes, this study seeks to create a roadmap for culturally congruent care. The integration of these elements ensures that interventions are not only medically sound but also culturally sustainable, fostering an environment where Filipino CKD patients feel empowered to manage their health while remaining connected to their traditions and communities.

Statement of the Problem

This study aimed to assess the cultural practices and levels of treatment adherence of patients with chronic kidney disease patient at St Mary Kidney Care Center so that a plan of action can be proposed to enhance treatment adherence of the participants based on their cultural practices.

Research Questions

1. What is the socio-demographic profile of the participants at Saint Mary Kidney Care?
 - 1.1 Age
 - 1.2 Sex
 - 1.3 Ethnicity
 - 1.4 Education Level
 - 1.5 Religion
 - 1.6 Duration of Dialysis
2. What is the extent of cultural beliefs of the participants in terms of:
 - 2.1 spirituality/religion
 - 2.2 family roles
 - 2.3 folk healing and
 - 2.4 food beliefs
3. Is there a significant difference in the extent of cultural beliefs of the participants when grouped according to profile variables?
4. What are the levels of treatment adherence of the participants in terms of:
 - 4.1 dialysis attendance
 - 4.2 medication compliance
 - 4.3 dietary restriction
 - 4.4 general health management

5. Is there a significant difference in the level of treatment adherence of the participants when grouped according to profile variables?
6. Is there a significant relationship between cultural beliefs and treatment of adherence?
7. What plan of action can be proposed to enhance levels of treatment adherence of participants?

Significance of Study

This study provides benefits to the following stakeholders:

Patients with Chronic Kidney Disease

The results directly benefit patients by identifying the specific cultural barriers such as folk healing or specific food beliefs that may be hindering their recovery. By aligning medical advice with their cultural values, patients are more likely to achieve higher treatment adherence, leading to fewer complications and a better quality of life.

Families of patients with chronic kidney disease

In the Filipino context, the family is the primary decision-maker. This study provides families with a clearer perspective on how their traditional roles and spiritual beliefs can coexist with modern hemodialysis. It empowers them to become more effective health advocates for the patient at home.

Hemodialysis Centers

This study serves as a diagnostic tool for the facility to understand the "non-compliance" of their patients. The proposed Plan of Action will provide the center with evidence-based strategies to improve patient-nurse communication, reduce missed dialysis sessions, and create a more "culturally safe" environment for the Kalinga community.

Academic and Research Community

The study contributes to the growing body of knowledge on culturally competent healthcare. It can serve as a reference for future researchers exploring indigenous health practices and chronic disease management.

Community Leaders and Elders

Since elders often influence health decisions in indigenous communities, the study can empower them with knowledge to support patients in balancing traditional practices with modern treatment.

Definition of Terms

The following terms were operationally defined based on their specific use within the research. These definitions are essential in contextualizing the relationship between cultural beliefs and treatment adherence of chronic kidney disease patients.

Cultural Beliefs - Refer to Madeleine Leininger's Transcultural Nursing Theory domains: spirituality/religion, family roles, folk healing practices, and food beliefs.

Treatment Adherence - Refers to the assessment of adherence behaviors regarding dialysis attendance, medication compliance, dietary restrictions and general health management.

Spirituality/Religion - Refers to one of Madeleine Leininger's Transcultural Nursing Theory domains that encompasses patients' spiritual beliefs, religious practices, and the perceived influence of prayer, spiritual factors, and religious rituals on their illness and healing processes.

Family Roles - Refer to one of Madeleine Leininger's Transcultural Nursing Theory domains involving the key

responsibilities, decision-making influences, and support systems provided by family members in managing the patient's treatment and medical care.

Folk Healing - Refers to one of Madeleine Leininger's Transcultural Nursing Theory domains encompassing traditional healing methods, the use of traditional herbs alongside dialysis, consultations with folk healers, and respect for indigenous healing practices.

Food Beliefs - Refer to one of Madeleine Leininger's Transcultural Nursing Theory domains involving how patients perceive the impact of food choices, dietary changes, and religious fasting on their kidney health.

Dialysis Attendance - Refers to an assessment of treatment adherence behaviors measuring how consistently patients prioritize and attend their scheduled hemodialysis sessions without exception.

Medication Compliance - Refers to an assessment of treatment adherence behaviors indicating how strictly patients follow physician instructions regarding their medication schedules, avoid self-medication, and prioritize prescribed treatments over unapproved alternatives.

Dietary Restriction - Refers to an assessment of treatment adherence behaviors measuring how closely patients follow specific nutritional guidelines and fluid intake restrictions recommended by their clinical team.

General Health Management - Refers to an assessment of treatment adherence behaviors regarding how actively patients monitor their health, promptly report physical changes, follow physical activity guidelines, and feel confident in managing their treatment plan collaboratively with healthcare providers.

METHODS

Research Design

This study employed a quantitative descriptive correlational research design to examine the cultural beliefs, and treatment adherence levels of patients with CKD. Additionally, the study analyzed significant differences in the cultural beliefs and treatment adherence across patient profiles. It also evaluated the correlation between cultural variables and treatment adherence and concluded with a proposed action plan designed to enhance patient adherence levels intrusting patients' cultural beliefs.

Participants of the Study

This research was conducted at Saint Mary Kidney Care, a dialysis center located in Bulanao, Tabuk, Kalinga, which serves a diverse patient population including indigenous communities. This facility provides maintenance hemodialysis to CKD patients and served as an ideal setting to study cultural influences on treatment adherence due to its rural location and unique population. The target population consisted of 90 adult chronic kidney disease (CKD) patients undergoing maintenance dialysis on MTW and THFS shifts at Saint Mary Kidney Care Tabuk, Kalinga, during the data collection period. Simple Random Sampling was utilized—a probability sampling method where every patient had an equal chance of being selected. Numbers (1–90) were assigned to the patients and placed inside a fishbowl, and the required number of samples was drawn one by one. Using OpenEpi software, the computed sample size was 74 patients out of the total 90 patients who underwent dialysis. The 74 participants provided sufficient data for descriptive statistics and enhanced the reliability of the results.

Inclusion and Exclusion Criteria

Inclusion Criteria: Patients were included in the study if they met the following criteria:

1. Were adult patients aged 18 years and above;
2. Were diagnosed with chronic kidney disease and had been on maintenance hemodialysis for at least three months;
3. Were able to comprehend and respond to the questionnaire (either verbally or in writing); and

Exclusion Criteria: Patients were excluded from the study if they met any of the following conditions:

1. Those who Exhibited cognitive impairments or severe acute illness that prevented participation;
2. Those Refused to provide consent or withdrew from the study prior to data completion; or
3. Those who had been on dialysis for less than three months at the time of recruitment.

Research Instruments

A structured instruments with the following sections were used in the study.

1. **Demographic Profile Questionnaire:** Collects basic information including age, sex, ethnicity, education level, religion, and duration on dialysis. This section included items formatted as closed-ended questions.
2. **Cultural Beliefs Questionnaire (CBQ):** Adapted from the study conducted by Suarilah et al. (2024) with the following domains: spirituality/religion, family roles, folk healing practices, and food beliefs. This instrument had 19 items measured on a **5-point Likert scale** (1 = Strongly Disagree to 5 = Strongly Agree).
3. **Treatment Adherence Questionnaire (TAQ):** Adapted from the study of Mohammadnezhad et al. (2024) which assessed adherence behaviors regarding dialysis attendance, medication compliance, dietary restrictions, and general health management through 11 items rated on the same 5-point Likert scale.

Validity and Reliability of the Research Instrument:

The content validity of the Cultural Beliefs Questionnaire (CBQ) and the Treatment Adherence Questionnaire (TAQ) was established through an expert review process. The validation panel comprised of 2 nursing professors with specialized expertise in Madeleine Leininger's Culture Care Diversity and Universality theory, as well as the distinct cultural practices of the Cordillera Administrative Region (CAR). It yielded a CVI of 0.95 indicating that the items were highly valid. To test its reliability pilot testing was done from patients in a similar setting. CBQ: 0.87 (high internal consistency) TAQ: 0.90 (excellent reliability)

Data Collection Procedure

1. Clearance was obtained from the Saint Paul University Philippines Research Ethics Committee (SPUP-REC). No data collection or recruitment began without an "Approved" status and a valid protocol code.
2. Upon receiving ethical clearance, the Principal Investigator formally submitted the REC approval letter and the research protocol to the Management/Medical Director of Saint Mary Kidney Care. Data gathering commenced once formal Site Authorization or written permission was granted by the facility. This ensured the study was recognized and cleared by the external site's administration.

3. Once site clearance was secured, the researchers coordinated with the Head Nurse or Unit Supervisor of the dialysis center to determine the most appropriate schedule for recruitment that did not interfere with the clinic's vital operations.

4. Recruitment was managed exclusively by the researchers. To ensure that participation was truly voluntary and free from undue influence, no doctors, nurses, or administrative staff from the dialysis center were involved in inviting or identifying potential participants.

5. The researchers approached potential participants during their scheduled maintenance hemodialysis sessions. Recruitment specifically took place during the first hour of the dialysis treatment, ensuring the patient was clinically stable and settled but not yet experiencing the fatigue often associated with the later hours of the procedure.

6. The researchers personally introduced the study to the patient, providing a clear explanation of the research objectives and the nature of the face-to-face questionnaire administration.

7. The researchers explicitly stated that the facility's clinical team would not be informed of who chose to participate or decline. This separated the research activity from the patient's clinical care, ensuring that patients did not feel pressured to participate to maintain favor with their healthcare providers.

8. If the patient expressed interest, the researchers proceeded with the informed consent process (available in English or Ilocano) in a private or semi-private manner at the bedside, ensuring the participant fully understood their rights before any data collection began.

Patients were informed about the study purpose, confidentiality, voluntary participation, and the right to withdraw anytime without penalty.

Data Analysis

Frequency & percentage. This was used to measure the socio-demographic profiles of the participants.

Weighted Mean. This was used to measure the Extent of cultural beliefs and extent of treatment adherence scores.

T-test to compare the means of two groups and ANOVA compares the means of three or more groups as well, as the significant difference between the two variables and the participants' socio demographic profiles.

Pearson R Moment Coefficient was used to determine significant relationship between cultural beliefs and treatment adherence,

RESULTS AND DISCUSSION

Profile of the Respondents

Table 1. *Age*

Age		
18 to 30 yrs old	7	9.50
31 to 45 yrs old	34	45.90
46 to 60 yrs old	27	36.50
61 yrs old and above	6	8.10

The majority of respondents were between 31 to 45 years old (45.90%), followed by those aged 46 to 60 years (36.5%), indicating a predominantly middle-aged population.

Table 2. *Sex*

Sex		
Male	45	60.80
Female	29	39.20

Most respondents were male, comprising 60.8% of the sample, while females represented 39.2%.

Table 3. *Ethnicity*

Ethnicity		
Kalinga	68	91.90
Ilokano	6	8.10

A significant majority of respondents identified as Kalinga (91.9%), with a smaller portion being Ilokano (8.1%).

Table 4. *Educational Level*

Educational level		
No formal education	10	13.50
Elementary	21	28.40
High school	24	32.40
Tertiary	19	25.70

Educational attainment varied, with the largest group having completed high school (32.4%), followed by elementary education (28.4%), tertiary education (25.7%), and no formal education (13.5%).

Table 5. *Religion*

Religion		
Catholic	59	79.70
Non-Catholic	15	20.30

Most respondents were Catholic (79.7%), with the remaining 20.3% identifying as non-Catholic.

Table 6. *Dialysis Duration*

Dialysis duration		
3 to 6 mos.	3	4.10
7 to 12 mos.	5	6.80
More than 12 mos.	66	89.20

The vast majority of respondents had been on dialysis for more than 12 months (89.2%), indicating a long-term treatment population.

Extent of Cultural Beliefs in Terms of Spirituality / Religion

Table 7. *Extent of Cultural Beliefs of the Participants in Terms of Spirituality / Religion*

Cultural Beliefs	Mean	Descriptive Interpretation
A. Spirituality / Religion		
1. I believe my illness is caused by spiritual or religious factors.	4.16	Great Extent
5. I believe that prayer can help in the healing process.	4.42	Very Great Extent
10. Cultural rituals (e.g., ceremonies or celebrations) impact my well-being and healing.	2.85	Moderate Extent

11. I believe that my spiritual beliefs influence my health outcomes.	3.51	Great Extent
15. I feel that my health improves when I follow religious or spiritual practices.	4.20	Great extent
17. I have a strong belief in the power of prayer for healing.	4.47	Very Great extent
Average Mean	3.94	Descriptive Interpretation

The table shows the mean distribution of the participants' extent of cultural beliefs in terms of religion or spirituality with a category mean of 3.94 interpreted as Great Extent. This means that the participants have a generally high regard for spirituality and religious beliefs. This also implies that spiritual and religious dimensions significantly influence their perception of illness and adherence to treatment. The highest mean scores were observed for belief in the healing power of prayer (items 5 and 17, with means of 4.42 and 4.47, respectively), reflecting a 'very great extent' belief that prayer contributes positively to health outcomes. This strong faith in spiritual interventions underscores the potential impact of spiritual well-being on coping mechanisms and treatment compliance. Consistent with this, studies have demonstrated that spiritual well-being is positively correlated with improved health outcomes and adaptive coping in chronic disease contexts (Li et al., 2022). Thus, interventions that enhance spiritual support may serve as beneficial adjuncts to medical treatment.

On the other hand, the lowest mean scores pertained to the impact of cultural rituals on well-being (mean 2.85, 'moderate extent') and belief in spiritual influence on health outcomes (mean 3.51, high but lower than others). This suggests variability in the perceived relevance of cultural ceremonies and the connection between spirituality and health, potentially indicating personal or community differences in cultural engagement. These nuances imply that healthcare providers should acknowledge diverse spiritual expressions and tailor supportive care accordingly. Such findings reflect broader discussions on integrating spiritual dimensions more effectively into healthcare to enhance patient engagement while respecting individual variations (Bridi et al., 2023).

Extent of Cultural Beliefs in terms of Family Roles

Table 8. *Extent of Cultural Beliefs in Terms of Family Roles*

Cultural Beliefs	Mean	Descriptive Interpretation
B. Family Roles		
2. My family plays a key role in managing my kidney treatment.	4.22	Great Extent
7. Family decisions have a significant influence on my treatment choices.	4.03	Great Extent
12. My family supports me in following medical advice and treatment plans.	4.26	Very Great Extent
16. I think it is important to consider cultural beliefs when making decisions about medical treatment.	2.20	Low Extent
18. I feel that my community's beliefs play a role in my treatment choices.	2.19	Low Extent
Category Mean	3.38	Moderate Extent

The category mean of 3.38 for family roles reflects a moderate extent of cultural beliefs in terms of family roles suggesting that while familial influence is significant, it is not uniformly strong across all beliefs. The highest items pertain to family involvement in managing treatment highlighting the essential role families play in treatment adherence (4.22, 'great extent') and support for medical guidance (4.26, 'very great extent'). These findings align with the established importance of family support in chronic disease management, in which families can enhance adherence through practical assistance and emotional encouragement (Nizet et al., 2021). Consequently, healthcare plans incorporating family education may improve treatment outcomes.

Conversely, the two lowest mean scores relate to the significance of cultural beliefs in medical decisions (2.20, 'low extent') and the influence of community beliefs (2.19, 'low extent') reveal gaps in acknowledging

broader cultural and communal roles beyond the immediate family, potentially reflecting patient autonomy or disconnection from wider cultural contexts. This suggests that healthcare strategies focusing solely on family may neglect community-level or cultural determinants affecting adherence. This observation is consistent with recent qualitative insights that emphasize the broader influence of sociocultural factors on treatment decisions and adherence in chronic diseases (Masupe et al., 2022).

Extent of Cultural Beliefs in Terms of Folk Healing

Table 9 *Extent of Cultural Beliefs in Terms of Folk Healing*

Cultural Beliefs	Mean	Descriptive Interpretation
C. Folk Healing		
3. I believe using traditional herbs alongside dialysis is beneficial for my health.	1.91	Low Extent
6. Consulting with folk healers is beneficial for managing my health.	2.54	Low Extent
8. I have a deep respect for indigenous healing practices.	2.57	Low Extent
13. I trust the effectiveness of traditional healing methods in conjunction with modern treatments.	2.08	Low Extent
Category Mean	2.28	Low Extent

This category received the lowest category mean of 2.28, indicating a generally low endorsement of folk-healing beliefs among patients. The lowest mean score pertained to respect for indigenous healing practices and belief in the benefit of consulting folk healers, although these are still categorized as low. This lower emphasis may reflect trust in biomedical approaches or the limited integration of traditional healing in patients' health beliefs. Given the known role of traditional medicine in many cultures, this finding highlights the need for healthcare providers to assess individual patient perspectives and potential complementary use of folk therapies (Ampomah et al., 2022).

The belief that traditional herbs are beneficial alongside dialysis had the lowest mean of 1.91 described as 'low extent'. This indicates skepticism or caution regarding the combination of these approaches, potentially because of concerns regarding safety or perceived efficacy. Such skepticism may affect patient adherence when conflicting beliefs emerge. Recent studies have highlighted the complexity of integrating traditional medicine with modern care, advocating for communication strategies that respect patients' cultural backgrounds while ensuring safe and effective treatment pathways (Gan et al., 2023).

Extent of Cultural Beliefs in Terms of Food Beliefs

Table 10 *Extent of Cultural Beliefs in Terms of Food Beliefs*

Cultural Beliefs	Mean	Descriptive Interpretation
D. Food Beliefs		
4. I think my food choices can significantly affect my kidney health.	4.20	Great Extent
9. Religious fasting affects my overall health, especially kidney health.	4.09	Great Extent
14. I believe that dietary changes are essential to my kidney health.	4.41	Very Great Extent
19. I believe that religious practices, such as fasting, have a positive impact on my kidney health.	4.20	Great Extent
Category Mean	4.23	Very Great Extent

The table shows that cultural beliefs in terms of food beliefs revealed a notably high average mean score of 4.23 described as 'very great extent', reflecting a strong cultural belief regarding the impact of diet and religious

fasting on kidney health. Notably, the belief in dietary changes as crucial for kidney health achieved the highest mean score of 4.41 still with a description of ‘very great extent’

Underscoring patients' recognition of the role of dietary changes are important to kidney health. This finding highlights a critical therapeutic area in which dietary education can significantly enhance adherence and clinical outcomes. The literature corroborates dietary modification as a fundamental intervention in chronic kidney disease (CKD), with plant-based, Mediterranean, and low-protein diets demonstrating benefits in slowing disease progression and improving health outcomes (Naber & Purohit, 2021; Sakaguchi et al., 2023).

Although slightly lower, mean scores ranging from 4.09 to 4.20 still indicate a strong belief in the impact of religious fasting on kidney health, confirming that spiritual food practices are integral to patients' health perspectives. This aspect necessitates culturally sensitive dietary counseling to honor fasting practices while optimizing health outcomes. Emerging research has elucidated how practitioners can effectively integrate religious practices into treatment plans, thereby enhancing adherence and well-being (Farooq et al., 2021).

Significant Differences Between the Extent of Cultural Beliefs and Demographic Profile

Table 11. *Significant Differences Between the Extent of Cultural Beliefs and Demographic Profile*

Areas	Age	Sex	Ethnicity	Educational Level	Religion	Dialysis Duration
1. Spirituality / Religion	.422	.754	.885	.680	.683	.763
2. Family Roles	.007*	.149	.223	.937	.006*	.000*
3. Folk Healing	.207	.688	.014*	.200	.164	.013*
4. Food Beliefs	.732	.874	.008*	.071	.078	.050*

Note: * $p < .05$

The null hypothesis - stating no significant differences in cultural belief domains across demographic variables - is rejected for specific cultural belief domains (family roles, folk healing, and food beliefs) across specific profile variables like age, religion, ethnicity, and dialysis duration where significant differences exist, and accepted for demographic groupings where no significant differences were observed.

Table 11 summarizes how spirituality, family roles, folk healing, and food beliefs differ across demographic characteristics among hemodialysis patients in the Philippine study setting. The table shows that family roles are significantly associated with age ($p = .007$), religion ($p = .006$), and dialysis duration ($p < .000$), suggesting that caregiving expectations and decision-making patterns deepen over time on dialysis and are shaped by religious affiliation and life stage. Local researches similarly highlight how religion and close family ties are central coping resources in serious illness, with family and faith jointly framing how patients interpret suffering and make health decisions (Ahmadi et al., 2024). Culturally responsive reviews of hemodialysis care emphasize that acknowledging patients' cultural priorities, including family obligations and religious practices, is essential to avoid conflicts between rigid dialysis schedules and key family events (Aryal et al., 2024). In line with Leininger's theory, these findings call local dialysis teams to systematically assess family structures and religious meanings, and to negotiate care plans that preserve valued roles while supporting adherence.

Significant differences in folk healing by ethnicity ($p = .014$) and dialysis duration ($p = .013$), and in food beliefs by ethnicity ($p = .008$) and marginally by dialysis duration ($p = .050$), indicate that traditional remedies and dietary rules remain embedded in Filipino ethnolinguistic cultures and may persist or evolve with longer time on treatment. Jardeleza et al. (2025) showed that rural Filipinos strongly rely on herbs, touch-based rituals, and food restrictions in folk healing, reflecting deep-seated “mental habits” around illness and recovery. Flandez et al. (2025) further demonstrate that folk healing is widespread in Philippine communities and that measuring such beliefs is crucial for culturally responsive health planning. Among hemodialysis patients in neighboring Indonesia, Komariah et al. (2023) found concurrent use of traditional herbs and healers alongside dialysis, linked to strong religiosity. Together, these patterns suggest that dialysis care

should routinely explore ethnic food traditions and folk-healing practices and, consistent with Leininger's tenets, seek to preserve harmless cultural practices while carefully repatterning those that may endanger renal outcomes.

Pairwise Comparison for Age Groups and Family Roles

Table 12. *Post-Hoc Pairwise Comparison for Age Groups and Family Roles*

Age	18 to 30 yrs old	31 to 45 yrs old	46 to 60 yrs old	61 yrs old and above
18 to 30 yrs old	-----			
31 to 45 yrs old	.061	-----		
46 to 60 yrs old	.858	.033*	-----	
61 yrs old and above	.998	.148	.956	-----

Note: * $p < .05$

Table 12 compares how perceptions of family roles differ between age groups among hemodialysis patients in Kalinga. It shows a significant difference between those aged 31–45 and 46–60 years while all other age-group comparisons are nonsignificant. This suggests that middle-aged adults who often act as primary breadwinners and decisionmakers in Kalinga households, may experience and define family caregiving responsibilities differently from younger adults in their 30s who are still consolidating work and family roles. Filipino caregivers commonly assume intensive daily care, financial management, and advocacy for relatives on hemodialysis, with long hours of accompaniment and multitasking described in Metro Manila and Bukidnon studies (Torres et al., 2021; Mercado, 2024). In Leininger's terms, nurses in Kalinga must recognize how age-linked family expectations within indigenous and low-income households shape caregiving roles, and design age sensitive, culturally congruent support—for example, involving older kin in decisions while also supporting the heavy role strain of middle-aged caregivers.

Post-Hoc Pairwise Comparison for Dialysis Duration and Family Roles

Table 13. *Post-Hoc Pairwise Comparison for Dialysis Duration and Family Roles*

Dialysis Duration	3 to 6 mos	7 to 12 mos	More than 12 mos
3 to 6 mos	-----		
7 to 12 mos	.996	-----	
More than 12 mos	.001*	.000*	-----

Note: * $p < .05$

Table 13 compares differences in perceived family roles by dialysis duration among the respondents. The patients on dialysis for more than 12 months differ significantly in family-role perceptions from those dialyzed for 3–6 months ($p = .001$) and 7–12 months ($p < .000$), while the comparison between 3–6 and 7–12 months is nonsignificant ($p = .996$). This pattern implies that as dialysis becomes a long-term reality in Kalinga, families progressively renegotiate responsibilities—such as transport, diet monitoring, and financial planning—leading to a qualitatively different view of family roles beyond the first year. Filipino caregivers of hemodialysis patients report escalating financial strain, lifestyle adjustments, and role conflict over time, underscoring how prolonged treatment deepens the caregiving burden and reshapes household dynamics (Torres et al., 2021; Remonte et al., 2024). Guided by Leininger's tenet of culturally congruent care, dialysis teams in Kalinga should anticipate these shifts after the first year and intentionally involve families in long-term planning, social support linkage, and culturally respectful counseling around shared roles and expectations.

Post-Hoc Pairwise Comparison for Dialysis Duration and Folk Healing

Table 14. *Post-Hoc Pairwise Comparison for Dialysis Duration and Folk Healing*

Dialysis Duration	3 to 6 mos	7 to 12 mos	More than 12 mos
3 to 6 mos	-----		
7 to 12 mos	.817	-----	
More than 12 mos	.339	.020*	-----

Note: * $p < .05$

Table 14 examines how folk healing beliefs vary by dialysis duration among Kalinga hemodialysis patients. It indicates a significant difference in folk healing beliefs only between those on dialysis for 7–12 months and more than 12 months ($p = .020$), with no significant differences between 3–6 and 7–12 months or 3–6 and more than 12 months ($p = .339$). This suggests that reliance on or attitudes toward folk healing may shift particularly after one year, as patients and families in Kalinga reassess the limits and benefits of both biomedical and traditional options. Filipino and Indonesian CKD patients frequently use herbal remedies and traditional healers alongside dialysis, motivated by spirituality, cultural norms, and perceived inadequacies of conventional care (Komariah et al., 2023). In the Kalinga context, where indigenous healing and rituals remain influential, Leininger’s theory supports engaging respectfully with these practices, assessing them over the course of treatment, and collaboratively “repatting” potentially harmful remedies (e.g., nephrotoxic herbs) while valuing patients’ cultural lifeworlds. (Cite sources)

Post-Hoc Pairwise Comparison for Dialysis Duration and Folk Beliefs

Table 15. *Post-Hoc Pairwise Comparison for Dialysis Duration and Folk Beliefs*

Dialysis Duration	3 to 6 mos	7 to 12 mos	More than 12 mos
3 to 6 mos	-----		
7 to 12 mos	.119	-----	
More than 12 mos	.039*	1.000	-----

Note: * $p < .05$

In Table 15, patients dialyzed for more than 12 months differ significantly in folk beliefs from those in the 3–6-month group ($p = .039$), while differences between 3–6 and 7–12 months ($p = .119$) and between 7–12 and more than 12 months ($p = 1.000$) are not significant. The early contrast suggests that some folk beliefs may be strongest or most distinct at the start of dialysis, then partially integrate with biomedical explanations as patients gain experience. In rural Philippine settings, people initially frame illness through spiritual and cultural lenses and gradually adjust beliefs as they interact with health professionals, yet many continue to integrate food taboos and ritual meanings in daily care (Jardeleza et al., 2025; Suarilah et al., 2024). For Kalinga, this implies that nurses should explore and respect folk explanations especially in the first months of dialysis, then, following Leininger, gradually co-construct culturally congruent health teaching that honors local cosmologies while strengthening safe, evidence-based self-management.

Treatment Adherence in Terms of Dialysis Adherence

Table 16. *Treatment Adherence in Terms of Dialysis Adherence*

Treatment Adherence	Mean	Descriptive Interpretation
A. Dialysis Attendance		
20. I attend all scheduled dialysis sessions without exception.	4.36	Very High
23. I prioritize my dialysis appointments and consistently attend every session.	4.50	Very High
Average Mean	4.43	Very High

The mean average for dialysis adherence was notably high at 4.43, indicating consistent patient attendance during their dialysis sessions. Among the individual items, the statement "I prioritize my dialysis appointments and consistently attend every session" recorded the highest adherence, with a mean of 4.50, reflecting strong patient commitment to dialysis schedules. This high prioritization likely correlates with positive treatment outcomes and improved disease management, as regular attendance is crucial for maintaining the health of patients with chronic kidney disease (CKD). However, the slightly lower mean of 4.36 for "I attend all scheduled dialysis sessions without exception" suggests occasional missed sessions by some patients, highlighting the need for ongoing encouragement and support to achieve perfect adherence.

The findings emphasize the significant influence of cultural beliefs in shaping patients' priorities and behaviors regarding dialysis adherence. Patients who integrate dialysis as a non-negotiable activity into their cultural and daily routines may exhibit better adherence. A study published in 2023 indicated that different dialysis modalities, such as home hemodialysis or peritoneal dialysis, which offer patients greater independence, enhance well-being and quality of life, thereby further motivating adherence (Antoun et al., 2022). This finding suggests that treatment strategies that respect cultural needs and enhance autonomy can improve adherence.

Treatment Adherence in Terms of Medical Compliance

Table 17. *Treatment Adherence in Terms of Medical Compliance*

Treatment Adherence	Mean	Descriptive Interpretation
B. Medication Compliance		
21. I take my prescribed medications exactly as instructed by my physician.	4.35	Very High
26. I avoid self-medicating and adhere strictly to the medication protocols provided by my healthcare team.	4.50	Very High
27. I maintain consistency in my medication schedule as directed by my doctor.	4.54	Very High
29. I prioritize prescribed medical treatments over the use of unapproved alternative therapies.	4.41	Very High
Average Mean	4.45	Very High

The average mean for medication compliance was notably high at 4.45, indicating strong adherence to the prescribed medication regimens. The highest mean, 4.54, was observed for the statement "I maintain consistency in my medication schedule as directed by my doctor," highlighting patients' recognition of the importance of routine medication intake. This high level of compliance is crucial, as medications directly affect the progression of CKD and prevent complications. Conversely, lower means, such as 4.35 for "I take my prescribed medications exactly as instructed by my physician," suggest there is room for improvement in precise medication adherence. This may be influenced by cultural beliefs regarding conventional and alternative medicines. Recent literature supports the effectiveness of pharmacist-led medication therapy management in enhancing medication adherence and reducing harmful drug use in patients with CKD (Wang et al., 2024). Tailored interventions that consider sociocultural contexts can further strengthen adherence. The implication is that cultural perspectives may affect medication compliance, particularly concerning self-medication or preferences for unapproved therapies. Therefore, culturally competent health communication and inclusive care are essential.

Treatment Adherence in Terms of Dietary Restriction

Table 18. *Treatment Adherence in Terms of Dietary Restriction*

Treatment Adherence	Mean	Descriptive Interpretation
C. Dietary Restriction		
22. I adhere to the specific dietary restrictions recommended by my clinical team.	4.65	Very High
24. I strictly follow the fluid intake guidelines provided by my healthcare providers.	4.39	Very High
Average Mean	4.52	Very High

Dietary restriction adherence was the highest among the domains, with an average mean of 4.52, demonstrating patients' strong compliance with nutritional guidelines. The top item, "I adhere to the specific dietary restrictions recommended by my clinical team," had a mean of 4.65, indicating that patients value and follow dietary recommendations closely. Given the significant impact of diet on CKD progression, strong adherence can yield better clinical outcomes. However, the slightly lower mean of 4.39 on fluid intake restrictions may indicate challenges in adhering strictly to fluid guidelines, possibly due to cultural food and drink practices or difficulties in changing habitual behaviors. Nutrition science increasingly recognizes the benefits of plant-based diets and dietary fiber in preserving kidney function, which can be integrated into culturally appropriate dietary counseling (Naber & Purohit, 2021; Ranganathan & Anteyi, 2022). A 2023 review underscored that diets such as the Mediterranean and plant-dominant low-protein diets could slow CKD progression while aligning well with some cultural diets (Sakaguchi et al., 2023). Therefore, culturally tailored dietary advice using evidence-based diets may reinforce adherence.

Treatment Adherence in Terms of General Health Management

Table 19. *Treatment Adherence in Terms of General Health Management*

Treatment Adherence	Mean	Descriptive Interpretation
D. General Health Management		
25. I promptly report any changes in my physical condition to my healthcare providers.	4.53	Very High
28. I follow the physical activity guidelines recommended by my clinical team.	4.51	Very High
30. I feel confident in managing my health and treatment plan in collaboration with my healthcare providers.	4.32	Very High
Average Mean	4.45	Very High

Adherence to general health management had an average of 4.45, showing very high compliance with actions such as reporting physical changes and following physical activity guidelines. The highest item, "I promptly report any changes in my physical condition to my healthcare providers," scored 4.53, reflecting patient engagement in monitoring their health actively.

The slightly lower score of 4.32 for confidence in managing health collaboratively indicates areas where patients may feel less empowered or supported, possibly influenced by cultural health beliefs or communication dynamics with providers. Recent advances have highlighted the value of digital health tools in supporting CKD self-management and promoting patient-provider partnerships (Markossian et al., 2021). Research in 2023 emphasizes the importance of culturally sensitive self-management support programs that empower patients and improve their treatment adherence attitudes (Kalantzi et al., 2023). Such programs may enhance patients' confidence and active participation in their care plans.

Lower general health management means, even though high, potential gaps in patient education or cultural barriers to assertiveness in healthcare settings. Interventions focusing on collaborative care models and respect for cultural health beliefs can strengthen adherence to health management (Markossian et al., 2021).

Significant Differences Between the Extent of Treatment Adherence and Demographic Profile

Table 20. *Differences Between the Extent of Treatment Adherence and Demographic Profile*

Areas	Age	Sex	Ethnicity	Educational Level	Religion	Dialysis Duration
1. Dialysis Attendance	.100	0.053	.039*	.904	.780	.710
2. Medication Compliance	.853	0.856	.219	.697	.850	.490
3. Dietary Restriction	.707	0.963	.070	.209	.652	.453
4. General Health Management	.646	0.764	.013*	.248	.400	.426

* $p < .05$

The null hypothesis - stating no significant differences in treatment adherence domains across demographic variables - is rejected regarding the association between ethnicity and variations in dialysis attendance and general health management, while it is accepted for other demographic profiles showing no significant differences across adherence domains.

Table 20 indicates that ethnicity is significantly associated with dialysis attendance ($p = .039$) and general health management ($p = .013$), while other adherence domains show no significant demographic differences (all $p > .05$). This suggests that Kalinga patients' ethnic background—likely linked to indigenous Kalinga identity and community norms—plays a stronger role than age, sex, or education in shaping regular session attendance and broader self-care. Similar patterns are reported in ethnic-dense dialysis communities, where neighborhood ethnic context and social cohesion are linked with better adherence and outcomes (April-Sanders et al., 2023). Integrative reviews also highlight that social-demographic factors such as ethnicity, religion, and dialysis vintage intersect with self-management and perceptions to shape adherence behaviors (Win et al., 2025; Yasin et al., 2024). In Leininger's transcultural perspective, this underscores the need for culturally congruent dialysis services in Kalinga that actively incorporate indigenous values, kinship patterns, and community leadership into adherence counseling and scheduling.

The lack of significant association between demographic factors and medication compliance (all $p \geq .219$) and dietary restriction (all $p \geq .070$) suggests that these adherence behaviors may be influenced more by general health status, psychosocial factors, and health literacy than by basic demographics in this Kalinga cohort. Structural modelling from Iran shows that general health and age significantly predict overall adherence, while sex, education, and dialysis duration are not significant predictors (Movahedi et al., 2023). Similarly, a cross-sectional study in Morocco found that younger age and shorter dialysis duration increased the risk for low overall adherence, pointing to the importance of targeted education rather than demographic profiling alone (Mazzi et al., 2024). For Kalinga, this implies that nurses should design interventions that strengthen self-care management skills and culturally grounded health education—delivered in local language and attuned to indigenous worldviews—while, in Leininger's terms, preserving meaningful cultural practices and restructuring only those that undermine safe medication use and diet control.

Pearson Correlation Matrix for Cultural Beliefs and Treatment Adherence

Table 21. *Pearson Correlation Matrix for Cultural Beliefs and Treatment Adherence*

Variable	Cultural Beliefs	Treatment Adherence
Cultural Beliefs	-----	
Treatment Adherence	.134	-----

The null hypothesis stating that no relationship between cultural beliefs and treatment adherence is accepted due to the weak and non-significant linear relationship ($r = .134$).

The small positive correlation ($r = .134$) between cultural beliefs and treatment adherence suggests only a weak linear relationship, implying that in Kalinga, cultural beliefs may both support and hinder adherence depending on how they intersect with daily practices. Qualitative work among Javanese hemodialysis patients shows that life-and-death acceptance and spiritual values can sustain perseverance with treatment, yet cultural obligations around social gatherings sometimes lead to ignoring dietary requirements, illustrating this ambivalence between belief and adherence (Suarilah et al., 2024). Broader CKD literature stresses that social determinants, cultural acceptance, and spirituality can act as protective factors that enhance resilience and meaning in life, thereby indirectly supporting treatment adherence (Fradelos & Alikari, 2025). For indigenous Kalinga patients, Leininger's culture care theory suggests that nurses should not aim to erase local beliefs but to preserve helpful practices (e.g., supportive rituals), accommodate neutral customs, and repattern only those cultural elements that conflict with safe dialysis, medication, and diet, so that cultural identity becomes a resource rather than a barrier to adherence.

Intervention Program

Project PANIYAW & PODON:Restructuring Caregiving Taboos and Co-constructing Cultural Covenants in Renal Adherence

Program Rationale

The management of chronic kidney disease (CKD) within indigenous populations, particularly the Kalinga community at Saint Mary Kidney Care Center, requires a significant shift from standard biomedical enforcement to a culturally safe healthcare model. Data from the study reveals that while self-reported treatment adherence is high, patients remain deeply embedded in a cultural lifeworld where food beliefs and spiritual practices strongly dictate their health outcomes. The small positive correlation ($r = .134$) between cultural beliefs and treatment adherence implies that indigenous values can simultaneously support or conflict with biomedical regimens depending on how they are navigated by clinicians. Furthermore, significant statistical variations underscore that family caregiving perceptions and traditional beliefs shift dynamically based on age, religion, ethnicity, and dialysis duration. This demonstrates that clinical compliance cannot be sustained through demographic profiling or uniform health education.

To bridge the gap between indigenous cosmologies and long-term hemodialysis requirements, this intervention program operationalizes Madeleine Leininger's Transcultural Nursing Theory. By addressing systemic vulnerabilities such as low health literacy and the lack of culturally sensitive care structures, the program actively transitions healthcare providers from a position of cultural blindness to one of therapeutic negotiation. Intervention strategies are purposefully mapped to Leininger's three modes of action: preserving supportive spiritual practices like prayer, negotiating safe dietary boundaries that respect ethnic food ideologies, and gently repatterning potentially hazardous habits, such as the concurrent use of unapproved folk herbs. Ultimately, this program establishes an institutional framework that alleviates family caregiver role strain, empowers community elders as health advocates, and co-constructs a sustainable, family-centric care environment that optimizes renal outcomes.

Program Goal and Objectives

General Goal: To establish a culturally congruent nursing intervention framework that integrates Kalinga indigenous belief systems with biomedical renal therapies to enhance long-term treatment adherence and reduce clinical role conflict among CKD patients.

Specific Objectives:

- To institutionalize a language-appropriate culture-care mapping protocol within the hemodialysis facility to individualize patient care plans.
- To establish a family-centric support structure that systematically redistributes caregiving responsibilities to alleviate role strain among middle-aged household breadwinners.
- To form a collaborative healthcare alliance with community elders and leaders to encourage safe renal diets and discourage the use of nephrotoxic traditional herbs.

Table 22. *Implementation Plan*

Objective	Activities / Strategies	Resources	Target Outcome	Implementors
Institutionalize culture-care mapping protocols	Develop and validate a localized Culture-Care Assessment Tool focusing on Kalinga spiritual practices, food beliefs, and treatment timeline perceptions. Conduct transcultural nursing workshops for the clinical staff.	• Culture-Care Assessment Tool Form • Transcultural Nursing modules	100% of newly admitted and long-term dialysis patients receive structured, language-appropriate cultural mapping integrated into their medical charts.	• Nephrologists • Renal Nurses • Transcultural Nursing Experts
Establish family-centric support structures	Conduct family care-mapping counseling sessions, creating structured, rotating household schedules for treatment accompaniment, fluid tracking, and financial monitoring.	• Local dialect interpreters • Family counseling guides • Fluid and diet tracker booklets	85% of households of patients on dialysis for over 12 months report decreased role strain and stable compliance with treatment schedules.	• Renal Nurses • Medical Social Workers • Family Caregivers
Form collaborative community alliances	Convene dialogue circles with Kalinga tribal elders and leaders to co-author an educational brochure that aligns local spiritual practices and safe food choices with biomedical dialytic care.	• Social worker referral networks • Meeting venue • Contextualized print materials • Clinical guidelines on herb-drug interactions	Active discouragement of nephrotoxic folk herbs within the community and a measurable increase in the preservation of safe, supportive spiritual rituals.	• Hemodialysis Center Administration • Community Leaders & Tribal Elders • Clinical Nutritionists

Monitoring and Evaluation Plan

The monitoring and evaluation of the Culturally Congruent Renal Care Program (CCRCP) will utilize a dual-approach framework combining monthly clinical reviews and semi-annual community-based feedback loops. Hemodialysis center quality assurance teams will continuously monitor objective metrics, tracking missed dialysis appointments, medication compliance records, interdialytic weight gains (fluid restriction adherence), and charting the completion rates of cultural assessment forms. Concurrently, qualitative monitoring will occur quarterly through focus group discussions with family caregivers and community elders to assess changes in caregiver role strain, the integration of spiritual practices, and the usage rates of alternative herbal remedies. At the end of a 12-month implementation cycle, a summative evaluation will compare baseline clinical parameters against current adherence scores, determining the effectiveness of the program in utilizing Leininger's modes of care to build a culturally safe, sustainable clinical environment for the Kalinga population.

CONCLUSION

This study demonstrates that therapeutic adherence among chronic kidney disease (CKD) patients within an indigenous enclave is a multi-dimensional construct that extends far beyond clinical conformity or static demographic profiling. The findings underscore that while biomedical compliance may initially appear optimal, sustained engagement with long-term hemodialysis is dynamically mediated by the patient's cultural lifeworld—specifically through shifting familial roles, deeply ingrained ethnic food ideologies, and resilient spiritual coping mechanisms. The non-significant demographic variances across core compliance domains indicate that clinical non-adherence cannot be mitigated through generalized structural profiling; rather, it requires an epistemological shift toward Madeleine Leininger's Transcultural Nursing Theory. Ultimately, addressing the complexities of chronic care in resource-limited rural environments necessitates that healthcare providers transition from a purely Eurocentric, biomedical enforcement model to a culturally congruent paradigm. By systematically operationalizing the modes of cultural care preservation, accommodation, and strategic repatterning, clinical institutions can successfully integrate indigenous Kalinga cosmologies with renal therapies, thereby co-constructing a sustainable, family-centric, and culturally safe framework that optimizes long-term patient outcomes.

Recommendations

1. *Patients with Chronic Kidney Disease*

Collaborate actively with renal care providers by disclosing personal food beliefs and spiritual practices, ensuring that individual religious coping mechanisms are safely incorporated into their daily self-management and dietary regimens.

2. *Families of Patients with Chronic Kidney Disease*

Formulate a structured household caregiving plan that redistributes logistical and financial responsibilities, particularly beyond the 12-month dialysis mark, to systematically alleviate role strain among middle-aged family breadwinners while sustaining long-term treatment monitoring.

3. *Hemodialysis Centers (Saint Mary Kidney Care)*

Implement an institutional policy for culture-care mapping that trains nursing staff to conduct language-appropriate cultural assessments, allowing the facility to adapt treatment schedules around community events and design literacy-appropriate education for the Kalinga population.

4. *Academic and Research Community*

Initiate longitudinal, mixed-methods investigations to explore the divergence between weak cultural correlations and high self-reported compliance, focusing specifically on how indigenous health literacy and family dynamics evolve across different stages of renal disease.

5. *Community Leaders and Elders*

Establish a collaborative health advocacy liaison between traditional tribal councils and biomedical clinicians to reinforce safe dietary modifications and supportive spiritual practices, while actively counseling community members against the use of unapproved, potentially nephrotoxic folk herbs.

References

- Ahmadi, F., Zandi, S., & Poblete, M.-L. (2024). Religion, culture, and cancer: Insights from a qualitative study on coping experiences of Filipino patients. *Frontiers in Psychology*. DOI: 10.3389/fpsyg.2024.1457027
- Aligado, H. B. (2025). Family Caregivers' Well-Being and Challenges in Caring for Patients Undergoing Hemodialysis. *Science Asia Review*, 11(1), 65-79. DOI: <https://ejournals.ph/article.php?id=29747#:~:text=Challenges%20encountered%20by%20family%20caregivers,family%20support%2C%20and%20social%20isolation.>
- Al Rashdi F, Tabche C, Atwan Z, Al-Qanubi H, Al Khaldi S, Al-Zadjali N and Rawaf S (2026) chronic kidney disease in hypertensive patients: the urgent need for targeted interventions in Arab countries: a systematic review. *Front. Nephrol.* 6:1735217. doi: 10.3389/fneph.2026.1735217
- Ampomah, I. G., Malau-Aduli, B. S., Seidu, A.-A., Malau-Aduli, A. E. O., & Emeto, T. I. (2022). Integrating traditional medicine into the Ghanaian health system: perceptions and experiences of traditional medicine practitioners in the Ashanti region. *International Health*, 15(4), 414–427. <https://doi.org/10.1093/inthealth/ihac059>
- Antoun, J., Brown, D. J., Jones, D. J. W., Clarkson, B. G., Shepherd, A. I., Sangala, N. C., Lewis, R. J., McNarry, M. A., Mackintosh, K. A., Mason, L., Corbett, J., & Saynor, Z. L. (2022). Exploring patients' experiences of the impact of dialysis therapies on quality of life and wellbeing. *Journal of Renal Care*, 49(1), 15–23. <https://doi.org/10.1111/jorc.12416>
- April-Sanders, A. K., Karaboyas, A., Yunes, M., Norris, K. C., Dominguez, M. J., Kim, R. S., Isasi, C., & Golestaneh, L. (2023). Receiving hemodialysis in Hispanic ethnic dense communities is associated with better adherence and outcomes among young patients. *BMC Nephrology*. DOI: 10.1186/s12882-023-03297-w
- Arcilla, M. E. (2025). Quality of life and treatment-seeking behavior of chronic kidney disease patients: A sequential explanatory study as a basis for bedside mental healthcare initiative. *International Journal for Multidisciplinary Research*. DOI: 10.36948/ijfmr. 2025.v07i02.40045
- Aryal, S., Bennett, P. N., & Bloomer, M. J. (2024). Culturally responsive care in haemodialysis: A scoping review. *Journal of Clinical Nursing*. DOI: 10.1111/jocn.17373
- Bridi, L., Kaki, D. A., Albahsahli, B., Abu Baker, D., Khan, X., Aljenabi, R., Bencheikh, N., Schiaffino, M. K., Moore, A. A., & Al-Rousan, T. (2023). The influences of faith on illness representations and coping procedures of mental and cognitive health among aging Arab refugees: a qualitative study. *Frontiers in Psychiatry*, 14, 1083367. <https://doi.org/10.3389/fpsyg.2023.1083367>
- Cardona-Arango D, Santacruz-Restrepo V, Rendón-Montoya A, Madrigal-Cadavid J, Segura-Cardona A and Estrada-Acevedo JI (2026) Medication adherence in older adults with chronic diseases: a scoping review of barriers, facilitators, and effective interventions. *Front. Aging* 7:1642652. doi: 10.3389/fragi.2026.1642652
- Cui, Y., Li, X., Liu, N., Li, J., Feng, Y., Li, S., Bai, X., Li, F., Liu, H., Zhang, Y., & Lv, H. (2026). Development and Validation of the Treatment Adherence Scale for Non-Dialysis Chronic Kidney Disease Patients in China: A Mixed-Methods Study. *Patient preference and adherence*, 20, 573282. <https://doi.org/10.2147/PPA.S573282>
- Ekholm, M., Aulbach, M., Walsh, S., Phipps, D., Rauta, V., & Knittle, K. (2024). Behavioral interventions targeting treatment adherence in chronic kidney disease: A systematic review and meta-analysis. *Social Science & Medicine*. DOI: 10.1016/j.socscimed.2024.117594
- Farooq, A., Chamari, K., Sayegh, S., El Akoum, M., & Al-Mohannadi, A. S. (2021). Ramadan daily intermittent fasting reduces objectively assessed habitual physical activity among adults. *BMC Public Health*, 21(1), 1912. <https://doi.org/10.1186/s12889-021-11961-9>
- Flandez, K. I., Imbayarte, S. M., Canoy, H. G., Lapinid, M. K., Pacheco, M., Pamplina, J. A., Ramirez, E. L., Collera, M. M., & Quinte, J. L. (2025). Development and validation of the Folk Healing Perception Scale (FHPS): Assessing

- the reliability and validity of a novel measurement instrument. *Journal of Interdisciplinary Perspectives*. DOI: 10.69569/jip.2025.569
- Fradelos, E., & Alikari, V. (2025). Influence of social determinants on wellbeing in chronic kidney disease patients. *Frontiers in Public Health*. DOI:10.3389/fpubh.2025.1719473
- Gan, X., Shu, Z., Wang, X., Yan, D., Li, J., Ofaim, S., Albert, R., Li, X., Liu, B., Zhou, X., & Barabási, A. -L. (2023). Network medicine framework reveals generic herb-symptom effectiveness of traditional Chinese medicine. *Science Advances*, 9(43), eadh0215. <https://doi.org/10.1126/sciadv.adh0215>
- Gutierrez, M., & Sakulbumrungsil, R. (2021). Factors associated with medication adherence of hypertensive patients in the Philippines: A systematic review. *Clinical Hypertension*, 27, Article 19. DOI: 10.1186/s40885-021-00176-0
- Jardeleza, K. D., Delcano, M. B., Delmo, A., Eugalca, J. M., Siojo, R. R. J., & Pedroso, J. E. P. (2025). Mental habits behind seeking folk healing in rural Philippines. *Sosyal ve Kültürel Araştırmalar Dergisi*. DOI: 10.25306/skad.1658394
- Kalantzi, V., Kalafati, I., Belitsi, V., Tsiampalis, T., Koutsosnasios, I., Androustos, O., Bonoti, F., Panagiotakos, D., & Kosti, R. (2023). Cardiometabolic Patient-Related Factors Influencing the Adherence to Lifestyle Changes and Overall Treatment: A Review of the Recent Literature. *Life*, 13(5), 1153. <https://doi.org/10.3390/life13051153>
- Kasahun, A. E., Sendekie, A. K., Mekonnen, G. A., Sema, F. D., Kemal, L. K., & Abebe, R. B. (2022). Impact of personal, cultural and religious beliefs on medication adherence among patients with chronic diseases at University Hospital in Northwest Ethiopia. *Patient Preference and Adherence*, 16, 2101–2113. DOI: DOI: 10.2147/PPA.S370178
- Komariah, E. D., Novia, K., Beda, N. S., & Situngkir, R. (2023). Beliefs of chronic kidney disease patient: A phenomenology study. *Babali Nursing Research*, 4(1), 1–9. DOI: 10.37363/bnr.2023.42227
- Leininger, M. (1988). Leininger's theory of nursing: Cultural care diversity and universality. *Nursing Science Quarterly*, 1(4), 152–160. DOI: 10.1177/089431848800100408
- Li, J., Xue, L., & Pan, H. (2022). Social Support and Spiritual Well-Being of Patients With Esophageal Cancer Aged Over 50 Years: The Mediating Role of Rumination. *Frontiers in Psychiatry*, 13, 805380. <https://doi.org/10.3389/fpsy.2022.805380>
- Lunardi, L. E., Matricciani, L. A., Le Leu, R. K., Bastin, R., Myers, D., Bradbrook, M., Bradbrook, D., Lester, R., Johns, E., Britton, A., Jesudason, S., Muthuramalingam, S., Dumuid, D., & Bennett, P. N. (2026). "Understanding Chronic Kidney Disease Self-Management Barriers and Facilitators: A Consumer-Led Qualitative Study". *Journal of renal care*, 52(1), e70055. <https://doi.org/10.1111/jorc.70055>
- Markossian, T. W., Boyda, J., Taylor, J., Etingen, B., Modave, F., Price, R., & Kramer, H. J. (2021). A Mobile App to Support Self-management of chronic kidney disease: Development Study. *JMIR Human Factors*, 8(4), e29197. <https://doi.org/10.2196/29197>
- Masupe, T., Onagbiye, S., Puoane, T., Pilvikki, A., Alvesson, H. M., & Delobelle, P. (2022). Diabetes self-management: a qualitative study on challenges and solutions from the perspective of South African patients and health care providers. *Global Health Action*, 15(1), 2090098. <https://doi.org/10.1080/16549716.2022.2090098>
- Mazzi, L., Benksim, A., Amame, M., & Cherkaoui, M. (2025). Overall adherence in hemodialysis patients and associated factors: A cross-sectional study from Morocco. *Therapeutic apheresis and dialysis : official peer-reviewed journal of the International Society for Apheresis, the Japanese Society for Apheresis, the Japanese Society for Dialysis Therapy*, 29(1), 52–60. <https://doi.org/10.1111/1744-9987.14196>
- Mercado, M. A. (2024). The development of a family support program for caregivers of hemodialysis patients. *Jurnal Ners dan Kebidanan*, 11(2), 317–329. DOI: 10.26699/jnk.v11i2.art.p175-188
- Mohammadnezhad, G., Ehdaivand, S., Sebty, M., Azadmehr, B., Ziaie, S., & Esmaily, H. (2024). Chronic kidney disease and adherence improvement program by clinical pharmacist-provided medication therapy management; a quasi-experimental assessment of patients' self-care perception and practice. *BMC nephrology*, 25(1), 463. <https://doi.org/10.1186/s12882-024-03902-6>
- Movahedi, M., Nehrir, B., Moayed, M., & Sirati Nir, M. (2023). Structural equation modeling of treatment adherence based on general health and demographic characteristics in patients undergoing hemodialysis. *Nephro-Urology Monthly*. DOI: 10.5812/numonthly-140108
- Naber, T., & Purohit, S. (2021). Chronic Kidney Disease: Role of Diet for a Reduction in the Severity of the Disease. *Nutrients*, 13(9), 3277. <https://doi.org/10.3390/nu13093277>
- Nizet, P., Toucheffeu, Y., Pecout, S., Cauchin, E., Beaudouin, E., Mayol, S., Fronteau, C., & Huon, J.-F. (2021). Exploring the

- factors influencing adherence to oral anticancer drugs in patients with digestive cancer: a qualitative study. *Supportive Care in Cancer*, 30(3), 2591–2604. <https://doi.org/10.1007/s00520-021-06663-2>
- Prest, M., & Marder, A. (2025). A guide to Filipino foods while on dialysis. *Journal of Renal Nutrition*. DOI: 10.1053/j.jrn.2025.04.004
- Ranganathan, N., & Anteyi, E. (2022). The Role of Dietary Fiber and Gut Microbiome Modulation in Progression of Chronic Kidney Disease. *Toxins*, 14(3), 183. <https://doi.org/10.3390/toxins14030183>
- Remonte, E., De Leon, D. F., & Gutierrez, S. (2024). Quality of life and burden of care of family caregivers of Filipino patients on hemodialysis and peritoneal dialysis. *Kidney International Reports*, 9(4), S205. <https://storage.unitedwebnetwork.com/files/1099/40baf3fca40819ad52a21532495da13e.pdf>
- Sakaguchi, Y., Kaimori, J.-Y., & Isaka, Y. (2023). Plant-Dominant Low Protein Diet: A Potential Alternative Dietary Practice for Patients with Chronic Kidney Disease. *Nutrients*, 15(4), 1002. <https://doi.org/10.3390/nu15041002>
- Shen, H., van der Kleij, R. M., van der Boog, P. V. D., Wang, W., Song, X., Li, Z., Lou, X., & Chavannes, N. (2021). Patients' and healthcare professionals' beliefs, perceptions and needs towards chronic kidney disease self-management in China: A qualitative study. *BMJ Open*, 11(3), e044059. DOI: 10.1136/bmjopen-2020-044059
- Sierra, P., Pérez-Jiménez, J. M., Espinoza Quezada, D. P., Lucchetti, G., & De-Diego-Cordero, R. (2025). Association between religious/spiritual coping and quality of life among hemodialysis patients in Ecuador. *Frontiers in public health*, 13, 1510329. <https://doi.org/10.3389/fpubh.2025.1510329>
- Suarilah, I., Widyawati, I. Y., Umam, K., Lin, C.-C., Purwanti, R., Supriyono, S., & Mundt, K. (2024). The Javanese cultural beliefs and practices among patients with end-stage renal disease undergoing hemodialysis. *Journal of Transcultural Nursing*, 35(2), 210–219. DOI: 10.1177/10436596241239304
- Taylor, K. S., Umeukeje, E. M., Santos, S. R., McNabb, K. C., Crews, D. C., & Hladek, M. D. (2023). Context Matters: A Qualitative Synthesis of Adherence Literature for People on Hemodialysis. *Kidney360*, 4(1), 41–53. <https://doi.org/10.34067/KID.0005582022>
- Torres, G., Sumile, E., Rebuena, M. C. D., Parial, L. L., Malong-Consolacion, C. P., Estrada, M. G., Macindo, J., & Hendrix, C. (2021). Exploring the challenges and needs of home caregivers of hemodialysis patients in the Philippines: A mixed methods study. *Nursing Forum*, 56(3), 676–688. DOI: 10.1111/nuf.12618
- Wang, T., Kang, H.-C., Chen, C.-C., Lai, T.-S., Huang, C.-F., & Wu, C.-C. (2024). The Effects of Pharmacist-Led Medication Therapy Management on Medication Adherence and Use of Non-Steroidal Anti-Inflammatory Drug in Patients with Pre-End Stage Renal Disease. *Patient Preference and Adherence*, 18, 267–274. <https://doi.org/10.2147/ppa.s436952>
- Wehbe-Alamah, H. B. (2018). Leininger's culture care diversity and universality theory: Classic and new contributions. *Annual Review of Nursing Research*, 36(1), 153–174. DOI: 10.1891/0739-6686.37.1.1
- Win, K. C. M., Zhou, H., Patton, V., Steen, M., & Della, P. (2025). Factors contributing to non-adherence to treatment among adult patients with long-term haemodialysis: An integrative review. *Nursing Reports*. DOI: 10.3390/nursrep15090314
- Yasin, F., Khraim, F., Santos, M., Forgrave, D., & Hamad, A. (2024). Factors influencing self-care management in adult hemodialysis patients: An integrative review. *Qatar Medical Journal*. DOI: 10.5339/qmj.2024.12
- Yoon, S., Kwan, Y., Yap, W. L., Lim, Z., Phang, J. K., Loo, Y., Aw, J., & Low, L. (2023). Factors influencing medication adherence in multi-ethnic Asian patients with chronic diseases in Singapore: A qualitative study. *Frontiers in Pharmacology*, 14, 1036993. DOI: 10.3389/fphar.2023.1124297