Effect of Social Support and Spiritual Well-being on the Quality of Life of Patients Undergoing Hemodialysis

Al-Khaqani, Mustafa A.Yaseen[1*], Sadeq AL-Fayyadh [2]

[1,2]*Adult Nursing Department, College of Nursing, University of Baghdad, Baghdad, Iraq.*
E-Mail: s.al-fayyadh@conursing.uobaghdad.edu.iq

KEYWORDS
Social Support, Spiritual Well-Being, Quality Of Life, Patients Undergoing Hemodialysis

ABSTRACT
Background: This study aims to assess the impact of social support and spiritual well-being on the quality of life of patients undergoing hemodialysis. **Methods and Materials**: A cross-sectional research design was adopted in Iraq, with 234 purposively selected patients, meeting the inclusion criteria. Kidney Disease, Quality of Life Short Form Version 36 (QOL SF-36) scale, the Multi-Dimension Perceived Social Support Scale (MDPSS), and the spiritual well-being scale (SWB) were used. **Results**: The regression model demonstrates a significant effect of social support and spiritual well-being (SWB) on the QOL. This can be inferred from the *t*-value that shows the differences between social support and QOL = (1.434), as also, as the differences between SWB and QOL = (1.906), and its associated *p*-value (0.038, 0.015). By referring to F (2,231) = 3.14 and its *p*-value = 0.034. All these explain the variations in the quality of life and the explanatory variables are referred to as R2 value = 0.45. Both variables added were statistically significant to the prediction, $p < 0.05$. **Conclusion**: The quality of life of patients undergoing hemodialysis was influenced by social support and spiritual well-being. Although the level of social support and spiritual well-being was high among the study participants, the quality of life was moderate.

1. Introduction

Chronic kidney disease (CKD) is one of many chronic diseases that lead to a progressive and irreversible decline in kidney function and an imbalance in the body's electrolyte and metabolic processes.(1). Numerous studies have linked CKD to uncontrolled high blood pressure, dyslipidemia, and diabetes. (2)(3)(4). Raised blood levels due to toxic chemicals, such as creatinine, urea, and other compounds, can cause uremic pruritus (UP) and cardiovascular issues. Chronic kidney disease can lead to an imbalance of electrolytes and fluids in the body, putting an extra strain on the heart and blood vessels, causing anemia, and impairing the body's ability to regulate calcium and phosphorus levels in many patients undergoing hemodialysis (5). Dialysis is required when kidney disease occurs in End-Stage Renal Disease (ESRD), leading to Chronic Kidney Disease (CKD) (6). In cases of ESRD, dialysis and transplantation are required forms of renal replacement therapy.(7). Dialysis treatment can be divided into two categories: peritoneal dialysis and hemodialysis.(8).

Hemodialysis (HD) is one of the most frequently used replacement therapies for patients with chronic renal failure.(9). Hemodialysis is an intrusive and expensive therapy that comes with significant financial, physical, and psychosocial costs for the patient and their careers.(10).

Hemodialysis is a common form of renal replacement therapy not only for older patients but also for the younger ones with ESRD (11). It is used to cleanse the blood of extraneous waste and excess fluid. (12). The most common problem among patients with dialysis is the decreased quality of life (QoL). Moreover, HD is associated with recurrent hospitalizations, poor adherence to medications, depression, and high mortality rates (13). Quality of life is "the ability of individuals to perceive their position in life within the cultural context and the value systems in which they live, being by their goals, expectations, standards, and concerns." (14).

Most research on the quality of life has concentrated on addressing the physical side effects rather than its psychological and emotionally distressing consequences.(15)(16),(17). Very little is known regarding the mental health and well-being of this sizable population of chronically ill, frequently older people with chronic diseases (18). Improved dialysis therapy, better QOL, and adherence to the treatment plan advised by healthcare professionals, and careers, are directly correlated with social support (12). Several studies have shown that social support is essential for assisting HD patients in

managing their illness and improving their QoL (19),21,10). Spiritual well-being improves the patients' capacity to adjust to the onset of the illness and speed up their recovery.(22,23,24,25). It is challenging to define spiritual well-being. It is invisible, and each person's interpretation of it is undoubtedly unique (25).

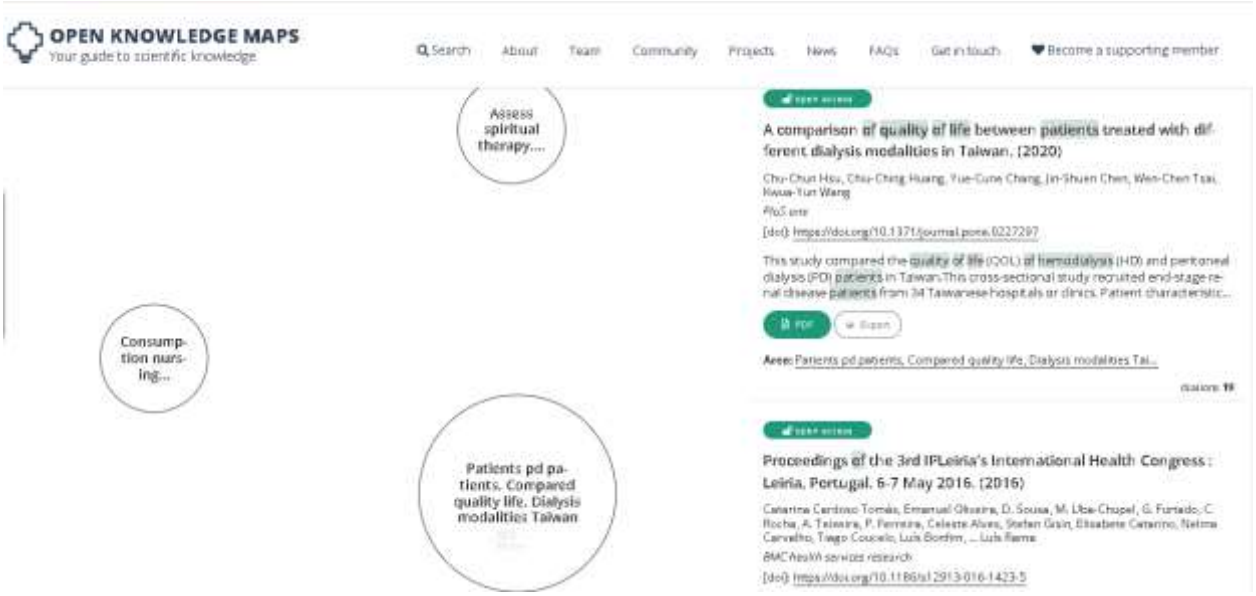
Both the International Council of Nurses' Code of Ethics and the American Holistic Nurses Association's Standards for Holistic Nursing Practice mention the inclusion of nursing duty for spiritual care (27,28). Recent studies suggest that spirituality and religion can have a beneficial impact on health and illness (8,29,30).

This study was designed and implemented to fill the gap between the national and regional scientific fields of literature. The researcher found insufficient evidence with regard to "social support," "spiritual well-being," and "quality of life" for "patients undergoing hemodialysis." Conducting this study was justified and highly recommended. Thus, the primary goal of this research is to ascertain how social support and spiritual health affect hemodialysis patients' quality of life.

Study novelty: This study represents a pioneering effort to explore the influence of social support and spiritual well-being on the quality of life among hemodialysis patients. Notably, it marks the first examination of these factors in the context of Iraqi society. The findings of this research unveil a nuanced understanding of how social support and spiritual well-being, individually and in conjunction, shape the quality of life among hemodialysis patients. Particularly significant is the absence of prior investigations within Iraq that have focussed on social support and its implications on the quality of life of individuals undergoing dialysis. Therefore, this study fills a critical gap in the existing literature and offers unique insights into the multifaceted dynamics impacting the well-being of hemodialysis patients in Iraq.

A thorough bibliographic analysis was conducted using Open Knowledge Maps ((https://openknowledgemaps.org/)) to ensure the uniqueness of the research study. The attached documentation demonstrates that the research variables are original and novel, setting a solid foundation for the study's significance and contribution to the field.

Open knowledge maps are an essential asset in academic research as they challenge the originality of the research, because they streamline the discovery process, strengthen connections between disciplines, and promote open access to scientific knowledge. The smaller the circles on the map, the more original the search (30)



However, in the studies mentioned above, from the previous literature, the impact of social support and spiritual well-being on the quality of life of patients undergoing hemodialysis is limited in scope.

It cannot be generalized, as there are not many descriptive studies on the social support and spiritual well-being of patients undergoing hemodialysis in different countries. In addition to the limited studies in Iraq, the social support and spiritual well-being levels differ based on cultural differences between countries. This difference can be attributed to the fact that spiritual well-being depends on religion and existence, which are variable from one place to another. In comparison, the levels of social support and spiritual well-being vary from one society to another, according to their beliefs. Therefore, the results of the current study will be helpful in future studies, to fill in the study gap in the previous literature, on patients undergoing hemodialysis.

This article is a pioneering study that delves into the impact of social support and spiritual well-being on the quality of life of patients undergoing hemodialysis. It is the first of its kind to assess this impact in the context of Iraqi society. The results reveal that social support and spiritual well-being, both individually and in combination, significantly influence the quality of life of hemodialysis patients. Notably, there is a dearth of similar studies on social support and its impact on the quality of life of dialysis patients in Iraq.

This study takes a comprehensive approach to examining the quality of life in ESRD patients undergoing hemodialysis. It uses the Wilson and Cleary model as a guiding framework. As shown in Figure 1, this model emphasizes the multidimensional nature of the phenomenon under investigation, providing a robust theoretical foundation for the study.

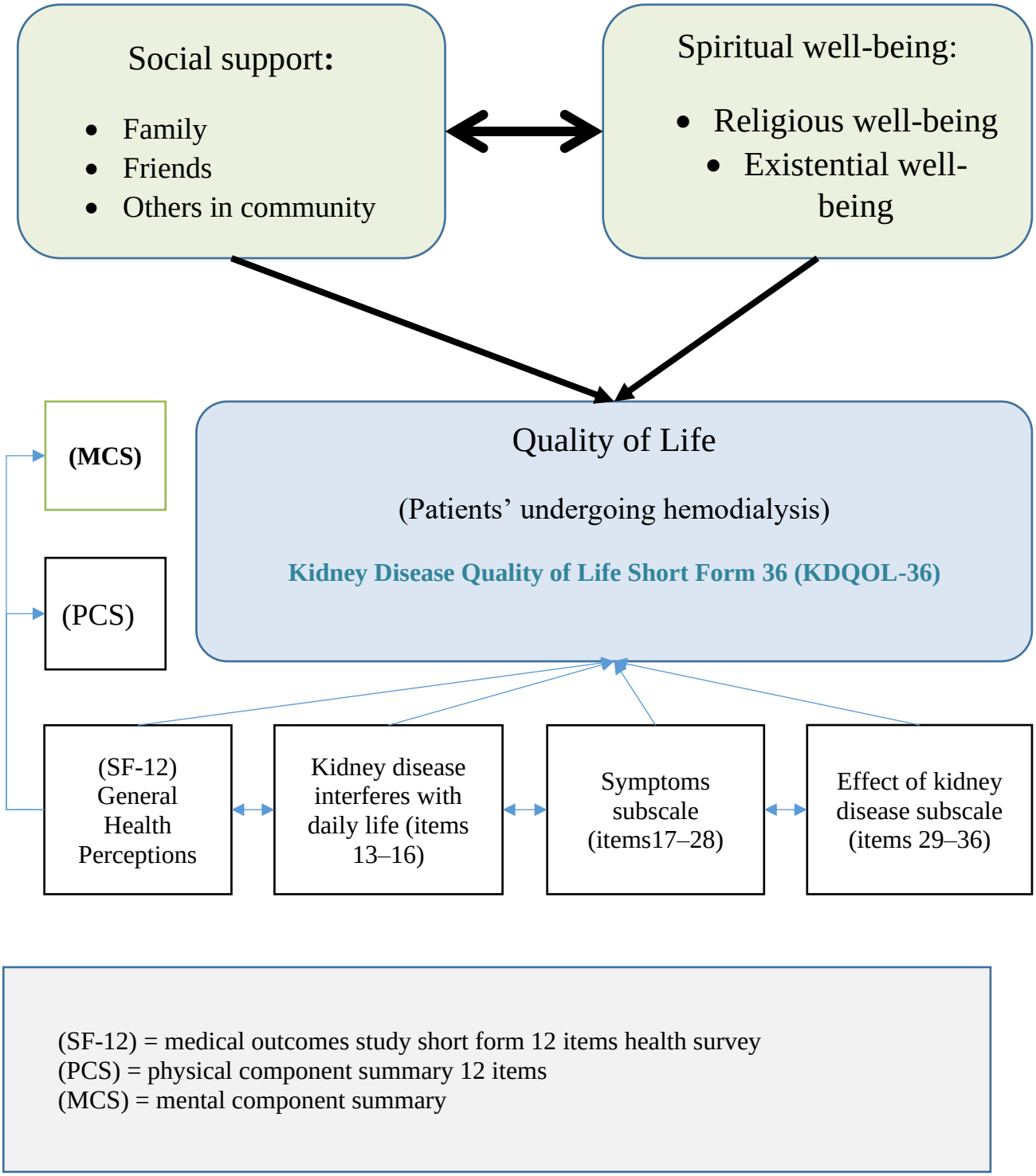


Figure 1. The Wilson and Cleary application model evaluates factors affecting the current study population's quality of life.

Methods

1. Design

For this study, a cross-sectional research design was meticulously chosen for its ability to provide a comprehensive snapshot of the patients' quality of life and to evaluate the effect of social support and spiritual well-being on the variable. This careful selection instills assurance in the validity of the study's findings.

2. Population

The population under study includes a diverse group of patients diagnosed with stage 5 or terminal chronic kidney disease, who received hemodialysis therapy at the Najaf al-Ashraf Centers. This inclusivity ensures that the study's findings are representative of a broad range of hemodialysis patients.

3. Study Setting

The study was conducted in the Hemodialysis Public Centers at the Al-Sadder Medical City, Al-Najaf al-Ashraf, and Al-Hakeem Teaching Hospitals, in Iraq. These hospitals were targeted because they were the only ones that had dialysis centers, from among all the hospitals in the Najaf Governorate.

4. Sample and Sampling Procedures

The sample was made up of 234 participants through non-probability purposive sampling. The data was collected from July 17th, 2023, to November 5, 2023.

According to the study's inclusion/exclusion criteria, 250 patients were eligible for the study, although nine refused to participate and seven had incomplete questionnaires, resulting in 234 participants, hence, the response rate would be 93%.

5. Minimum Sample Size Calculation:

The researcher used the Steven K. Thompson equation to calculate the minimum sample size, formula the following:

$$s = \frac{N * p(1-p)}{[[N-1*(d^2 \div z^2)] + P(1-P)]}$$

The population of patients receiving hemodialysis in the Al-Najaf al-Ashraf city (N = 494) is represented by the following: n is the minimum required sample size; d is the margin of error (equal to 0.05); P is a probability value that takes a value between 0 and 1 (we set it equal to 0. 5); and z is a standardized value equal to 1.96. According to Table (1), the minimum sample size required by the Thompson equation is 217 respondents.

Where n is the minimum required sample size, N is the population size of the patients undergoing hemodialysis in the Al-Najaf al-Ashraf city (N = 494), as documented in the hospitals' statistical recorders, P is a probability value that takes a value from 0 to 1 (we set it equal to 0. 5), d is the margin of error (equal to 0.05), and z is a standardized value equal to 1.96. The results of the Thompson equation revealed that the minimum sample size should be 217 respondents (Table (1).

Table (1): Minimum sample size determination

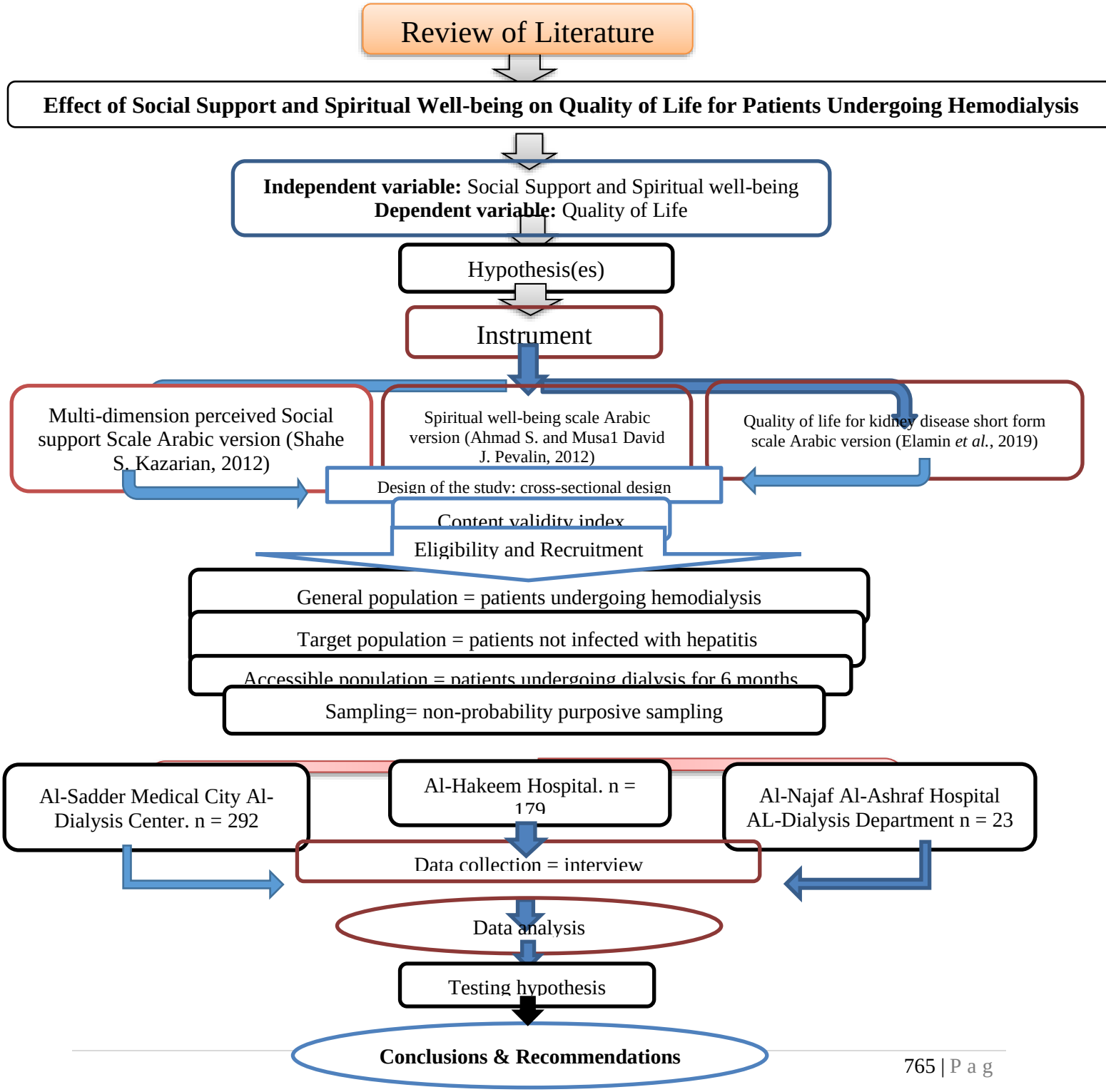
Parameter for calculating the minimum sample size	Selected Values
N: population size	(494)
Z: confidence level at (95%)	1.96
d: Error proportion	(0.05)
p: Probability	0.5

The researcher used an electronic application to calculate the minimum sample size to verify the accuracy of the result in the Steven K. Thompson equation, which showed the same result and can be retrieved by visiting http://www.raosoft.com/samplesize.html (Raosoft: Sample size calculator)

6. Inclusion and Exclusion Criteria

The inclusion criteria were patients ≥ 18 years of age, patients seeking hemodialysis therapy in the targeted centers, and patients on hemodialysis for ≥ 6 months.

The exclusion criteria include patients with sensory-perceptual communication problems; patients with hepatitis infection, including HCV and HBV; patients receiving temporary hemodialysis due to a medical emergency, dialysis; patients complaining of physical symptoms, such as dizziness, shortness of breath, nausea, and vomiting, which make it difficult to answer the questionnaire. These dialysis patients with psycho-mental disorders are confirmed by medical authorities, which may affect the validity of their responses.**7. Study Protocol Algorithm**



8. Study Instruments:

A structured questionnaire was used to collect data from participants. It consisted of five sections:

8.1. Demographic and Lifestyle Data Form:

The first section is socio-demographic data, which includes data about (age, sex, marital status, level of education, economic status, smoking, and residence).

8.2. Clinical Data Form:

The second section contained six questions, three about ESRD disease. The fourth question asks if the patient has any other chronic disease, besides ESRD. The fifth and sixth questions were about nursing instructions and other sources of information.

8.3. The Arabic version of the Multidimensional Scale of Social Support (MSPSS)

Zimet et al., (1988). A quick and popular tool for evaluating social support in community and mental health settings is the MSPSS. The MSPSS was created to evaluate the perceived sufficiency of three social support networks—friends, family, and a significant other—and has been translated into other languages, including Chinese, Hindi, Hebrew, Italian, Turkish, Pakistani, and Uganda.

8.3. a. Validity and Reliability:

In order to evaluate the validity and reliability of the scale following translation, Merhi and Kazarian in Lebanon translated this scale into Arabic in 2012 using participants from Lebanon (n = 221 people over the age of 21). The 12-item Arabic translation of the MSPSS had a high level of internal consistency (n = 221, a = 87), which is similar to the reliabilities of 0.88 when applying the spearmen correlation.

8.3. b. Rating and Scoring:

The MSPSS-Arabic version is a 12-item scale, designed to measure perceived social support. Each item is rated on a 7-point Likert rating scale. Although (1 refers to firm disagreement, and seven refers to firm agreement) with a low sum of score 12, the high sum of scores was 84 (Merhi & Kazarian, 2012).

8.3. c. Permission:

The researcher obtained permission to use the MSPSS-Arabic version in this study from Dr. Shahi Kazarian, Ph.D

8.4. Spiritual Well-Being Scale

The Spiritual Well-Being Scale (SWBS) comprises of 20 items, each rated on a 6-point Likert scale from 'strongly agree' to 'strongly disagree'. Ellison (1983) identified two primary factors in the SWBS during its development, using a sample of 206 students from three religiously affiliated colleges. These factors are categorized as Religious Well-Being (RWB) and Existential Well-Being (EWB). The RWB subscale includes ten items focused on spirituality involving "God," while the EWB subscale covers ten items related to life satisfaction and purpose (31).

Approximately one-fourth of the Spiritual Well-Being Scale (SWBS) items are negative (1, 2, 9, 13, and 18) to reduce potential response bias. Each item on the SWBS is scored on a scale of 1 to 6, where higher scores indicate greater well-being. Items with negative wording are scored in reverse. Odd-numbered items evaluate religious well-being, while even-numbered items measure existential well-being (32).

8.4. a. Validity and Reliability:

The SWBS was translated into Arabic in order to accommodate the Muslim community. By using

data from pilot research and analyzing the internal structure of the SWBS, the validity and reliability of the Arabic translation were evaluated (32). Based on the dependability results, the SWBS and its subscales have a good level of internal consistency. The Cronbach's alpha values for the SWBS in the primary research were impressive; they increased from 0.66 in the pilot study to 0.83 following the expert panel's updating of the items that were particularly problematic during the pilot phase. Yes, this is the whole English sentence. The Religious Well-Being (RWB) and Existential Well-Being (EWB) subscales of the Spiritual Well-Being Scale (SWBS) and their Cronbach's alpha value in the(31).

8.4. b. Rating and scoring

The answers to all twenty items are added up to determine the overall SWB score. The range of SWBS total scores is 20 to 120.(32).

8.4. c. Permission

Dr. Musa RN gave the researcher permission to utilize the spiritual well-being scale's Arabic version for this investigation.

8.5. The Kidney Disease Quality of Life Short Form

The Kidney Disease Quality of Life (KDQOL) Short Form consists of 36 questions (32). Two native Arabic-speaking bilingual translators independently translated the instructions, items, and response options of the KDQOL-36 SF from the US English version (33). The KDQOL-36 survey can be completed in 3–5 minutes, making it efficient for large-scale population studies, saving time and resources.

The first section (items 1–12) of the KDQOL-36 includes queries on general health, activity limitations, capacity to perform the desired tasks, feelings of depression and anxiety, energy levels, and participation in social activities. These items are grouped into the Physical Component Summary (PCS) and Mental Component Summary (MCS) scales, with items 1–5 and 8 predominantly influencing the PCS scale and items 6, 7, and 9–12 mainly affecting the MCS scale.

The second section (items 13–16) takes the load of the kidney disease subscale, focusing on how kidney disease disrupts daily life, consumes time, provokes frustration, or causes feelings of being a burden on others.

The third section (items 17–28) pertains to the symptoms and problem list subscale, addressing discomforts such as muscle soreness, chest pain, cramps, dry or itchy skin, breathlessness, dizziness, poor appetite, exhaustion, numbness in extremities, nausea, or issues with dialysis access.

The fourth section (items 29–36) assesses the impact of the kidney disease subscale, exploring concerns about fluid intake restrictions, dietary limitations, the ability to perform household tasks and travel, dependency on medical staff, stress, sexual health, and self-image. (34).

8.5. a. Validity and Reliability

The researchers translated the KDQOL-36 into formal Arabic using forward and backward translation methods. To evaluate conceptual equivalence, they administered both the Arabic and English versions simultaneously to a group of 10 bilingual patients. To assess test-retest reliability, the instrument was tested on 10 hemodialysis (HD) patients, showing good internal reliability with a Cronbach’s alpha of 0.81 and a significant inter-item correlation among the instrument's five subscales.

8.5. b. Rating and scoring

Every subscale score has a range of 0 to 100, where higher numbers correspond to better health.

8.5. c. Permission

To use quality of life for the kidney disease scale short-form 36 in Arabic for this study, the researcher received consent from Dr. Elamin.

9. Statistical Analysis

9.1. Normality Testing

Before statistical analysis, the main studied domains (quality of life, social support, and spiritual well-being) were tested for statistically normal distribution using Kolmogorov-Smirnov Test. This part is essential before analyzing data to determine which statistical methods are appropriate (parametric or non-parametric statistics). The normality results indicate that the data are normally distributed (Table 2).

Table (2) Hypothesis Testing Summary for the Studied Domains (quality of life, Social support, and Spiritual Well-being)

Null Hypothesis	Test	Sig.	Decision
The distribution of quality of life is normal with a mean of 38.86 and a standard deviation of 9.01	One-Sample Kolmogorov-Smirnov	0.200	Retain the null hypothesis
The distribution of social support is normal with a mean of 75.4 and a standard deviation of 15.4	One-Sample Kolmogorov-Smirnov	0.201	Retain the null hypothesis
The distribution of spiritual well-being is normal with a mean of 96.4 and a standard deviation of 15.9	One-Sample Kolmogorov-Smirnov	0.200	Retain the null hypothesis

Based on the significant value presented in Table (2), the study results indicate that the null hypothesis is retained in the studied domain. Based on these results the study data are normally distributed at a confidence interval (95%). Therefore, parametric statistics are the appropriate statistics used in data analysis in the present study.

The following methods for statistical data analysis were used to analyze the study data by applying the IBM-Statistical Package for the Social Sciences (IBM-SPSS) version 26 and Microsoft Excel (2019).

The RAND Corporation's Excel template. This ready-made Excel template developed by the RAND Corporation, is often used in the Kidney Disease Quality of Life-36 (KDQOL-36) tool. This tool is specifically designed for evaluating the quality of life in kidney disease patients the outcome includes:

1. Symptoms and Problems: Assesses symptoms and health issues related to kidney disease.
2. Effects of Kidney Disease on Daily Life: Measures the impact of kidney disease on the patient's daily life.
3. Burden of Kidney Disease: Evaluate the burden the disease places on the patient.
4. SF-12 Physical: A 12-item short form of the SF-36 survey to assess the physical sub-domain.
5. SF-12 Mental: A 12-item short form of the SF-36 survey to assess mental sub-domain.

The RAND Corporation's KDQOL SF-36 Excel template version-2 was divided into five pages raw,

convert, score, scale, and state, each serving a distinct purpose in the data processing workflow:

1. Raw: The purpose of this page is used to input the raw survey data directly from the KDQOL-SF questionnaires. It includes fields for each questionnaire item, allowing for easy data entry. This raw data serves as the foundation for all subsequent calculations.

2. Convert: The purpose of this page transform the raw responses into a format suitable for scoring. Some items in the KDQOL-SF require conversion or recoding (e.g., reverse scoring for certain items). This page handles these transformations, ensuring that the data is ready for accurate scoring.

3. Score: The purpose this page calculate the scores for individual items and subscales based on the converted data. Using the transformed data from the Convert page, this section computes the scores for each specific subscale and the overall SF-36 measures. It applies the appropriate algorithms and scoring rules to derive these values.

4. Scale: The purpose of this page normalize and scale the scores to standard metrics. The raw scores from the Score page are transformed into standardized scores, often involving processes like T-score transformations. This ensures that the scores are comparable across different populations and studies.

5. Stats: The purpose of this page summarizes the overall state and outcomes based on the scaled scores. It provides a high-level overview of the patient's quality of life as measured by the KDQOL-SF. This summary can be used for clinical evaluations, research analyses, or patient feedback.

The analysis included two types of statistics:

9.2. Descriptive Data Analysis

General characteristics, spiritual well-being, social support, and quality of life were analyzed by frequency, percentage, mean, and standard deviation. Graphic presentations were also used by using chart tools

9.3. Inferential Data Analysis:

1. Multiple linear regression was used to determine the effect of social support and spiritual well-being on quality of life. The author used this method to find out the effect combined two independent variables on one dependent variable by F-value and its p-value.

***R** in a regression analysis is called the correlation coefficient and it is defined as the correlation or relationship between an independent and a dependent variable.

****R square**

It is also known as the coefficient of determination that explains the variations in the dependent variable accounted by the independent variable. It ranges from 0 to 1 but is typically expressed as a percentage during interpretation. It is obtained by squaring the R-value described above.

Formula for R-Squared

$$R2 = 1 - \frac{\text{Unexplained Variation}}{\text{Total Variation}}$$

2. One-way Analysis of Variance (ANOVA) was used to determine mean differences for patients' social support, spiritual well-being, and quality of life and their demographic data.

3. Independent sample t-test compares the means difference between two independent samples (sex and residency) to assess whether statistical evidence exists that patients' social support, spiritual well-being, and quality of life according to their Sex and Residency.

Study Limitations

1. A large portion of the study sample consisted of patients who did not read and write, which prompted the researcher to choose an interview-based data collection method.

2. The collection of effective data from patients undergoing hemodialysis can be hindered due to the fatigue caused to them during these sessions. The researcher altered the sampling schedule to occur either post the hemodialysis session or two hours following its commencement.

Result:

Table (3): Descriptive Distribution of the Study Sample According to its Demographic Characteristics

Demographic Variables	Categories	f	%
Age (years)	Less than 21	14	6
	21- Less than 31	35	15
	31 - Less than 41	47	20
	41 - Less than **51**	**57**	**24.4**
	51 - Less than 61	48	20.5
	61 - Less than 71	25	10.7
	71 - and more	8	3.4
	Mean ± SD	44.36 ±14.53	
	Total	234	100.0
Sex	**Male**	**119**	**50.9**
	Female	115	49.1
	Total	234	100.0
Marital Status	Single	40	17.1
	Married	**177**	**75.6**
	Divorced	5	2.2
	Widowed	12	5.1
	Total	234	100.0
Occupation	Government employee	27	11.5
	Freelancer	61	26.1
	Private employee	17	7.3
	Retired	17	7.3
	Student	10	4.3

	Housewives	**62**	**26.5**
	Unemployed at the current phase	40	17
	Total	234	100.0
Monthly Income	Sufficient	25	10.7
	Somewhat sufficient	**109**	**46.6**
	Insufficient	100	42.7
	Total	234	100.0
Level of education	Do not read and write	45	19.2
	Able to read and write	**75**	**32.1**
	Primary school graduate	40	17.1
	Secondary school graduate	24	10.3
	Preparatory school graduate	17	7.3
	Technical institute graduate	21	9.3
	College Graduate	12	4.7
	Total	234	100.0
Residency	**Urban**	**161**	**68.8**
	Rural	73	31.2
	Total	234	100.0

Table (3) descriptively presents the distribution of the study sample according to the demographic characteristics of 234 hemodialysis patients. According to the age group, 24.4% of them are within the age group of (41 – 51) years. Male percentage was dominant, representing 50.9%, compared to females. Regarding marital status, 75.6% of them were married. With regard to occupation, housewives were the dominant category representing 26.5%. Almost half 46.6 % reported that their monthly income was sufficient. Concerning the level of education, 32.1% were able to read and write. With regard to residency, the majority, 68.8%, of the sample lived in urban areas.

Table (4)**:** The Overall Descriptive Evaluation of the Quality of Life of Patients Undergoing Hemodialysis

Levels	**Frequency**	**Percent**	**Mean score**	**Overall evaluation**
Low	59	25.2	**41.92**	**Moderate**

Moderate	**174**	**74.4**		
High	1	0.4		
Total	234	100.0		

Low at the sum of the score of 0–33.33, moderate at the sum of the score of 33.34–66.67, High at a sum of the score of 66.68–100, cut-off point = 33.33

Table (4) shows that hemodialysis patients' overall quality of life is moderate at the sum of score = 41.92.

Table (5): Multiple Linear Regression Analysis between Predictors (Social support and Spiritual well-being) and patient's quality of life

Predictors: (Constant)	SWB	MDPSS
Dependent variable	QOL	
R^2	0.45	
Standardized coefficients Beta	0.094	0.125
df1	2	
df2	232	
F	3.14	
Sig.	0.034	
VIF	1.031	1.031

a. Dependent Variable: quality of life

b. Predictors: (Constant), Social support, Spiritual well-being

A multivariate linear regression model was used to ascertain the impact of social support and spiritual well-being on quality of life. Social support and spiritual well-being were regarded as explanatory factors and quality-of-life dependant. The quality of life and explanatory factors were shown to have a substantial effect on the regression model's result. From the t-value and related p-value, this may be deduced. Variations in the quality of life and the explanatory variables can be explained by looking at F (2,231) = 3.14 and its p-value = 0.034 (see R2 value = 0.45).

Discussion

The current study was the first in Iraqi society to determine the effect of social support and spiritual well-being on the quality of life. It was hypothesized that social support and spiritual well-being combined or separated could affect the quality of life of patients undergoing hemodialysis.

In line with the research hypothesis, Table (5) represented the differences between the two, social support and quality of life, which demonstrated that there was a statistically significant (F = (3.52) *p*. value = 0.03). According to the multi-dimensional scale of perceived social support (MSPSS), there were notable discrepancies between the KDQOL-36 scores and social support levels. This implied

that the perceived degree of social support was a significant factor that was affecting the quality of life (QoL) of people with chronic kidney disease (CKD). Regarding the QoL, patients with more social support tended to fare better than those who had less support. This emphasized the importance of providing CKD patients with social networks and support systems. This was in response to the fourth research question, "Does social support affect the quality of life of patients undergoing hemodialysis?"

As in other studies, social support appears to be linked to QoL. There is a positive correlation between QoL, general social support, and its subscale(s), as compared to social support as a whole, which was moderately correlated with QoL (35–37)

Research has shown that people with HD typically have a low quality of life (QoL) as a result of the obstacles and hardships brought on by their condition and treatment (38). It is well known in the literature that HD patients experience a lower quality of life (QoL) as a result of both objective and subjective aspects, such as physical, mental, social, and medical issues(40,(28);(12). However, the null hypothesis of the study that there are no statistically significant differences at the level of $\alpha \leq 0.05$ in the QOL of patients undergoing hemodialysis, due to the variables combined or separated from the spiritual well-being and social support, is rejected.

The reason is that Iraqis are characterized by good family cohesion and social relations, whether in good times or bad times, sadness or joy, diseases or health. Dr. Ali Al-Wardi, a pioneer in Iraqi sociology, examined how this cultural characteristic is ingrained in Iraqi culture's historical and sociological fabric. Al-Ward's research delves deep into the social ties and solidarity ('asabiyya) that characterize Iraqi society and identity (40). Therefore, it is expected that the same reason can explain the current study findings, as there is a relationship between social support and the quality of life of patients undergoing hemodialysis, as shown in Table (4). In answering the fifth research question: "Is there an effect of spiritual well-being on the quality of life for patients undergoing hemodialysis?" SWB was found to be associated with the kidney disease quality of life short form–KDQOL-SF, including sub-domains, such as burden, symptoms, effects of kidney disease, and mental health (23). They evaluated the relationship between QOL, the health of CDK patients, and spiritual well-being. The authors also discussed how spirituality and religious beliefs might improve a patient's health, as they can offer consolation, purpose, and hope, even in the face of severe suffering. Furthermore, despite the mental, social, and physical difficulties brought on by CKD, spirituality can support and enhance their QOL. These results offer a potential explanation for the substantial and overall positive correlations observed between the QOL and SWB.

The study discovered a substantial impact of spiritual well-being on CKD patients' quality of life. A feeling of direction, significance, and kinship, with something bigger than oneself are all components of spiritual well-being (43). The findings imply that people who expressed greater degrees of spiritual well-being typically had an enhanced quality of life(26).

Therefore, the current study's second hypothesis that "There are statistically significant differences at the level $\alpha \leq 0.05$ in the quality of life among patients undergoing hemodialysis due to the variables perceived, social support, and spiritual well-being," is confirmed. The findings in Table (4) answered the final research question: "Do social support and spiritual well-being affect the quality of life of patients undergoing hemodialysis?". The regression model result demonstrated a significant effect on the quality of life as a dependent variable, and social support and spiritual well-being as explanatory variables.

Patients on dialysis frequently worry about the uncertain course of their condition (41). They frequently experience financial difficulties and job loss (42). They constantly have depression due to their chronic illness; thus, they may have fears of dying (24). However, on the one hand, severe and chronic illnesses can make a person wonder about the meaning and purpose of life; for this reason, spiritual well-being is seen as a factor that improves the quality of life for patients undergoing hemodialysis (Al-Fayyadh *et al.*, 2022; (43), (19) (19,43,44). It has been reported that improving the

QoL of people with chronic illnesses requires addressing the intricate interactions between their social, psychological, and physical concerns. A holistic approach to care is needed, including medical management, psychosocial support, rehabilitation, and community services.

The current study showed that more social support improved the patients' quality of life. Similar results were reported by (35), who sought to investigate how social support affected the quality of life of hemodialysis patients.

Table (4) shows that the patient's overall quality of life is moderate. The relationship between social support and quality of life was examined, and the findings indicated that patients' quality of life improved with more support from friends, family, and significant others. Al-sadeh *et al.,* (2022) demonstrated that patients receiving hemodialysis benefited from the positive effects of the social networking experience and sharing (45). With this discovery, the medical staff can treat patients with chronic renal failure and improve their overall health (45). By giving patients a platform to talk about their experiences, nurses can help them live better, stay in the hospital for shorter periods, and spend less money overall (46).

The results of the current study in Table (4) demonstrated that the patients' quality of life increased as their spiritual well-being increased, Pilger *et al*., (2017). Similarly, a moderate degree of overall SWB is connected with a better life quality (23).

The social interactions and psychological domains showed the highest mean scores regarding QOL. All WHOQOL-BREF domains and subscales, except the environmental domain, showed statistically significant positive correlations with the SWB scale.

The current study results showed that the overall level of QoL for patients undergoing hemodialysis was moderate. It was found that the categories for quality of life were divided into five domains: physical, mental, illness symptoms, burden, and the effect of kidney diseases (47). All these domains had moderate evaluation scores, except the burden status, which had a high score. Beshna *et al.*, (2023). The aim to evaluate the quality of life of patients undergoing hemodialysis in Al-Zawiya, Libya, revealed information about the QoL of hemodialysis patients in Zawia, showing that most had a good quality of life. However, the research also indicated that individuals with early-stage chronic renal disease had a lower quality of life (48).

Pretto *et al.*, (2020), support the findings that for hemodialysis patients, the QoL is mainly linked to depression symptoms, illness complications, such as recurrent infections, headaches, pain, anaemia, weakness following a dialysis session, and poor medication adherence. Patients receiving maintenance dialysis for renal failure often experience a high burden of symptoms that can impair their quality of life and interfere with their ability to perform.(49).

In a systematic review of determinants of quality of life for patients with hemodialysis and chronic kidney disease, thirteen observational studies concluded that social support had the highest mean score among the eight generic QOL domains of the Short-Form Health Surveys. In contrast, general health had the lowest mean score among patients with pre-dialysis CKD. There was a more significant impairment in the physical component summary (PCS) than in the mental component summary (MCS). These were associated with poor QOL in pre-dialysis CKD patients (50).

In summary, the discussion highlights the importance of including interventions targeting improving spiritual well-being and social support in the overall care of hemodialysis patients. Thus, healthcare professionals can maximize the QoL outcomes and enhance the overall patient experience in hemodialysis.

Conclusion

The study findings revealed that individuals undergoing hemodialysis exhibited a moderate quality of life. Notably, the analysis indicated a significant effect between increased social support, spiritual well-being, and enhanced quality of life. Thus, the study suggests that augmenting social support networks or fostering

spiritual well-being among hemodialysis patients may improve their overall quality of life.

Ethical considerations

The Ethics Committee of Baghdad University College of Nursing granted research ethics confirmation (ethical permission code: 6) for the current study. Throughout the reporting and publishing of the study results, the researchers in this review study remained committed to safeguarding the intellectual property, while strictly focusing on the scientific objectives of the information they collected.

Financial support and sponsorship: There are no sources of funding to declare.

Conflicts of interest: The authors declare no conflict of interest for publication. This article was derived from a Ph.D. dissertation.

Acknowledgement

The researchers are grateful to Al-Sadder Medical City, Al-Hakeem Hospital, and Al-Najaf Teaching Hospital (Hemodialysis Centers) under the Ministry of Health in Al-Najaf Al-Ashraf City, for their generous support and assistance throughout this study. Additionally, I am thankful to all the patients who participated in the research.

Reference

[1] Fernanda I, Vieira DO, São U De, Usp P, Preto R. Burden and social support in caregivers of people with kidney disease : a systematic integrative review Sobrecarga e apoio social em cuidadores de pessoas com doença renal : uma revisão integrativa sistemática. 2023;5620–38.

[2] Naser A, Mohammed W. Effectiveness of Instructional Health Educational Vascular Access on Hemodialysis Patients' Knowledge at Al-Hussein Teaching Hospital in AL-Nasiriyah City. Iraqi Natl J Nurs Spec. 2016;29(1):86–94.

[3] Shinjar FJ, Bakey SJ, Khudur KM. Effectiveness of an education program on hemodialysis patients, knowledge towards dietary regimen at al-hussein teaching hospital in al-nasiriyha city. Indian J Public Heal Res Dev. 2018;9(10):622–7.

[4] Bahaa Mirza Skal, Sabah Abbas Ahmed. Effectiveness of an Educational Program on Nurses' knowledge about Risk Factors for Bleeding of Acute Myocardial Infarction in Patient Receiving Thrombolytic Therapy at Coronary Care Unit in Al-Diwaniya Teaching Hospital. Indian J Forensic Med Toxicol. 2021;15(3):5183–90.

[5] Marwan S. Alkhafaji1 AMAM. Effectiveness of an educational program on diabetic patients' knowledge about preventive measures for retinopathy. Rawal Med J [Internet]. 2023;48(2):334–7. Available from: 10.5455/rmj.20230308043304

[6] KÖMÜRCÜ C, KUZU A. the Effect of Social Support and Spiritual Well-Being on Posttraumatic Growth in Dialysis Patients and Their Caregivers. Karya J Heal Sci [Internet]. 2022;3(2):103–8. Available from: 10.52831/kjhs.1090841

[7] Ghelichi-Ghojogh M, Fararouei M, Seif M, Pakfetrat M. Chronic kidney disease and its health-related factors: a case-control study. BMC Nephrol [Internet]. 2022;23(1):1–7. Available from: https://doi.org/10.1186/s12882-021-02655-w

[8] Hamza Hermis A, Ibrahim Abed R. Effectiveness of Self-Regulation Fluid Program on Patients with Hemodialysis Self-Efficacy for Fluid Adherence in Al-Diwaniyah Teaching HospitalIraqi Natl J Nurs Spec [Internet]. 2021;34(2):2021. . Available from: doi: https://doi.org/10.58897/injns.v34i2.577

[9] Hatami A, Ghalati ZK, Badrani MR. The Relationship between Resilience and Perceived Social Support with Hope in Hemodialysis Patients : A Cross- sectional Study. J Res Med Dent Sci [Internet]. 2019;7(3):14–20. Available from: https://www.jrmds.in/articles/the-relationship-between-resilience-and-perceived-social-support-with-hope-in-hemodialysis-patients-a-crosssectional-stu.pdf

[10] Theofilou P, Stefanidou M, Giannakopoulou N, Tzavella F, Zyga S, Tsironi M, et al. The effect of perceived social support on the quality of life of hemodialysis patients. A preliminary study. Prog Heal Sci [Internet]. 2020;10(1):19–25. Available from: doi: 10.5604/01.3001.0014.1912

[11] Saeed M, AL-Mosawi K. Effectiveness of Health Education Program on Nurses' Knowledge toward Hemodialysis at

Pediatric Teaching Hospitals in Baghdad City. Iraqi Natl J Nurs Spec. 2020;33(1):73–84.

[12] Eneanya ND, Maddux DW, Reviriego-Mendoza MM, Larkin JW, Usvyat LA, Van Der Sande FM, et al. Longitudinal patterns of health-related quality of life and dialysis modality: A national cohort study 11 Medical and Health Sciences 1103 Clinical Sciences. BMC Nephrol [Internet]. 2019;20(1):1–9. Available from: doi: 10.1186/s12882-018-1198-5

[13] Muslimin I, Salim A. Analysis of malaria incidence based on behavioral factors in the islands. Indian J Public Heal Res Dev [Internet]. 2018;9(12):1461–5. Available from: 10.5958/0976-5506.2018.02059.4

[14] Ali A, Atiyah R. Effectiveness of An Instructional Program on Pulmonary Tuberculosis Patients Quality of Life Concerning General Health-Related among sample in Baghdad City. Iraqi Natl J Nurs Spec. 2017;30(1):66–75.

[15] Dawood K, Khudhair A. Assessment of Quality of Life for Parents of Autistic Child. Iraqi Natl J Nurs Spec. 2016;29(1):105–18.

[16] Pretto CR, Winkelmann ER, Hildebrandt LM, Barbosa DA, Colet C de F, Stumm EMF. Quality of life of chronic kidney patients on hemodialysis and related factors. Rev Lat Am Enfermagem. 2020;28:1–11.

[17] Narayanan M, Setia S. Chronic Kidney Disease. Perioper Med Consult Handb Third Ed. 2019;66(Suppl 1):301–5.

[18] Hasan A, Ali A. A New Measurement Scale for Evaluating Health-Related Quality of Life in Men with Prostate Cancer. Iraqi Natl J Nurs Spec. 2017;30(2):35–46.

[19] Elywy GJ, Radhi MM, Al-Eqabi QAK. Social Support and Its Association With the Quality of Life (QoL) of Amputees. Iran Rehabil J. 2022;20(2):253–9.

[20] Thenmozhi P. Quality of life of patients undergoing hemodialysis. Asian J Pharm Clin Res. 2018;11(4):219–23.

[21] Hassani F, Zarea K, Gholamzadeh Jofreh M, Dashtebozorgi Z, Chan SWC. Effect of Perceived Social Support, Spiritual Well-being, Health Literacy, and Resilience on Quality of Life in Patients Undergoing Hemodialysis: A Structural Equation Model. Jundishapur J Chronic Dis Care. 2022;11(2).

[22] Ebrahimi H, Ashrafi Z, Eslampanah G, Noruzpur F. Relationship between spiritual well-being and quality of life in hemodialysis patients. J Nurs Midwifery Sci. 2014;1(3):41.

[23] Pilger C, Santos ROP Dos, Lentsck MH, Marques S, Kusumota L. Spiritual well-being and quality of life of older adults in hemodialysis. Rev Bras Enferm. 2017;70(4):689–96.

[24] Hassani F, Gholamzadeh Jofreh M, Zarea K, Dashtebozorg Z, Chan SWC. Prediction of health-related quality of life through health literacy, perceived social support, spiritual well-being, and resilience in patients undergoing hemodialysis: An artificial neural network study. J Multidiscip Care [Internet]. 2022;11(2):61–70. Available from: https://doi.org/10.34172/jmdc.2022.72

[25] Fradelos EC, Alikari V, Tsaras K, Papathanasiou I V, Tzavella F, Papagiannis D, et al. The Effect of Spirituality in Quality of Life of Hemodialysis Patients. J Relig Health. 2022;61(3):2029–40.

[26] Hameed ZT, Sachit KR, Al S. Spiritual Coping Strategies for Patients with Chronic Renal Failure [Internet]. Vol. 31, Iraqi National Journal of Nursing Specialties. 2018. Available from: doi: https://doi.org/10.58897/injns.v31i2.311

[27] ICN. The ICN Code of Ethics for Nurses: Revised 2021 [Internet]. International Council of Nurses. 2021. 12 p. Available from: https://www.icn.ch/sites/default/files/inline-files/2012_ICN_Codeofethicsfornurses_ eng.pdf

[28] Asiri WA, Asiri AAH, Almutlaq AH, Almutairi KH, Alotaibi AE, Alshahrani MS, et al. Social support, religiosity, and quality of life among haemodialysis patients in Aseer region, Saudi Arabia. Middle East Curr Psychiatry [Internet]. 2023;30(1). Available from: https://doi.org/10.1186/s43045-023-00306-4

[29] Pokpalagon P, Chaiviboontham S, Phinitkhajorndech N. Spiritual needs, spiritual well-being, and Buddhist practices of patients with terminal illness, Thailand. Palliat Support Care. 2022;1–8.

[30] Open Knowledge Maps. Open Knowledge Maps. 2023; Available from: https://openknowledgemaps.org

[31] Patel, Goyena R. Validation of an Arabic Version of the Spiritual Well-Being Scale. J Chem Inf Model. 2019;15(2):9–25.

[32] Elamin S, E Elbasher AH, E Ali SE, Abu-Aisha H. Arabic translation, adaptation, and validation of the kidney disease quality of life short-form 36. Saudi J Kidney Dis Transpl. 2019;30(6):1322–32.

[33] University of Arizona. KDQOL Scale. English. 2000;

[34] Hays RD, Peipert JD, Kallich JD. Problems with analyses and interpretation of data in "use of the KDQOL-36TM for assessment of health-related quality of life among dialysis patients in the United States." BMC Nephrol. 2019;20(1):19–21.

[35] Alexopoulou M, Giannakopoulou N, Komna E, Alikari V, Toulia G, Polikandrioti A. The Effect of Perceived Social Support on Hemodialysis Patients' Quality of Life. Mater Socio Medica. 2016;28(5):338.

[36] Hassani F, Zarea K, Jofreh MG, Dashtebozorgi Z, Chan SWC. Effect of Perceived Social Support, Spiritual Well-being, Health Literacy, and Resilience on Quality of Life in Patients Undergoing Hemodialysis: A Structural Equation Model. Jundishapur J Chronic Dis Care. 2022;11(2).

[37] Janowski K, Steuden S, Pietrzak A. Social support and adaptation to the disease in men and women with psoriasis. 2012;421–32.

[38] Zyoud SH, Daraghmeh DN, Mezyed DO, Khdeir RL, Sawafta MN, Ayaseh NA, et al. Factors affecting quality of life in patients on haemodialysis: A cross-sectional study from Palestine. BMC Nephrol [Internet]. 2016;17(1):1–12. Available from: http://dx.doi.org/10.1186/s12882-016-0257-z

[39] Senteio CR, Callahan MB. Supporting quality care for ESRD patients: The social worker can help address barriers to advance care planning. BMC Nephrol. 2020;21(1):1–9.

[40] Rabiei K. Understanding Iraqi society: Reading Ali Al-Wardi (1913–1995). Sociol Compass [Internet]. 2024;18(1):e13157. Available from: https://compass.onlinelibrary.wiley.com/doi/10.1111/soc4.13157

[41] Seekles M.L, Coyne E, Ormandy P, Wells L, Bevin A, Danbury-Lee A. The UK renal psychosocial workforce - a mapping exercise. Br Ren Soc Kidney Care UK [Internet]. 2018; Available from: file:///C:/Users/Yanny/Downloads/The_UK_Renal_Psychosocial_Workforce_-_A_mapping_exercise.pdf

[42] Abd W, Hattab A. Assessing the Levels of Quality of Life for elderly People inflicted by Parkinson ' s Disease in the City of Baghdad Iraqi National Journal of Nursing Specialties , Vol . 28 (1), 2015 Assessing the Levels of Quality of Life for elderly People inflicted. Iraqi Natl J Nurs Spec. 2016;28(January 2015):36–45.

[43] Abdulwahid H. Evaluation of Women's Perceptions toward Wellness. Iraqi Natl J Nurs Spec [Internet]. 2017;30(1):15–25. Available from: 10.58897/injns.v30i1.263

[44] Al-Fayyadh S, Diener E, Wright V. Spirituality as a core concept in the theoretical literature of nursing: A comparative overview between Watson & Lovering's perspectives. In: Nursing Forum [Internet]. Wiley Online Library; 2022. p. 717–23. Available from: https://onlinelibrary.wiley.com/doi/abs/10.1111/nuf.12722

[45] Al-sadeh HHA, Pourghaznein T, Al-fayyadh S. The Effect of Sharing Experience via Social Networking on the General Health of Hemodialysis Patients : A Randomized Clinical Trial Study. Heal Provid Vol2, N1, Ser No2, Jun 2022. 2022;2(2):23–31.

[46] Al Nazly EK, Al Khatib H. The Knowledge and Educational Needs of Nurses Regarding Pain Management of Patients on Maintenance Hemodialysis: A Qualitative Study. Open Nurs J. 2021;15(1):93–102.

[47] Hall RK, Cary MP, Washington TR, Colón-Emeric CS. Quality of life in older adults receiving hemodialysis: a qualitative study. Qual Life Res [Internet]. 2020;29(3):655–63. Available from: https://doi.org/10.1007/s11136-019-02349-9

[48] Beshna EA, Alwafi SA, Lazrak RR. Evaluation of the Quality of life of Zawia (Libya) patients undergoing hemodialysis. Med Pharm J. 2023;2(1):4–16.

[49] Mehrotra R, Davison SN, Farrington K, Flythe JE, Foo M, Madero M, et al. Managing the symptom burden associated with maintenance dialysis: conclusions from a Kidney Disease: Improving Global Outcomes (KDIGO) Controversies Conference. Kidney Int. 2023;104(3):441–54.

[50] Alhaji MM, Tan J, Hamid MRWA, Timbuak JA, Naing L, Tuah NAA. Determinants of quality of life as measured with variants of SF-36 in patients with predialysis chronic kidney disease. Saudi Med J. 2018;39(7):653–61.