



## Original Research

# Lifestyle Impact of Anemic Patient Undergoing Hemodialysis in Kirkuk City

Marwa Hatem Shukur<sup>1</sup> | Abid Salih Kumait<sup>2</sup>

<sup>1</sup>Master student, Kirkuk Health Directorate, Iraq.

<sup>2</sup>Assistant Professor. PhD. Adult Nursing Kirkuk University, Nursing College, Adult Nursing Department Iraq

Corresponding Author:  
[nsrm22012@uokirkuk.edu.iq](mailto:nsrm22012@uokirkuk.edu.iq)



### Abstract:

**Background:** Anemia is an ongoing issue for patients on hemodialysis, and it has a substantial impact on their quality of life. Anemia frequently causes weariness, weakness, and diminished physical ability in hemodialysis patients, which can have a negative impact on their general well-being. The combination of chronic renal disease and anemia can increase symptoms, making everyday tasks more difficult and affecting their health.

**Objective:** to Identify the lifestyle impact of anemic patient undergoing hemodialysis in Kirkuk City

**Methods:** The study used a quantitative design from November 2023 to December 2024. Purposive (non-probability) samples were chosen from Kirkuk City's Kirkuk Teaching Hospital and Al Amal center1 for hemodialysis 341 hemodialysis patients participants participated in the research. Data was gathered through an interview and a questionnaire. Both inferential and descriptive statistical techniques were applied.

**Results:** More samples were 50 years of age or older (67.2%), and men outnumbered women (58.1%). More than three-quarters of the investigated sample were classified as "Housewife, Not working, and Retired" (78.01%), the majority had low levels of education (61.9%), and the majority had an inadequate or just enough financial position (84.75%). Nearly all of the lab results that show anemia were (abnormal). In the social and adaption domains, HRQoL has a line.

**Conclusions:** The study found that most anemic patients with CKD were men, elderly, had low education, were housewives, and had poor financial status. They were mostly overweight, had been on hemodialysis for 1-2 years, and had uncontrol diabetic results. Their health-related quality of life was generally poor, with varying impact levels across different QOL domains.

**Keywords:** Lifestyle, Anemia, Patient, Health-Related Quality Chronic Kidney Disease,

## Introduction

Critical kidney failure (CKD) is a silent disease that is typically discovered only in its severe stages. This is due in part to the fact that CKD does not have clearly recognized symptoms until the patient reaches the more severe phases and exhibits uremic symptoms, which complicates the challenges connected with CKD. However, CKD is a serious health concern that not only causes death but also significantly reduces patients' quality of life, which is why it should be identified early to modify the disease's natural course. (Carlson et al.2020; Alshelleh et al.2022) ,CKD patients frequently have long-term consequences including as tiredness, discomfort, sleep problems, restless leg syndrome, anorexia, heart failure, angina, and sexual dysfunction. Fatigue may be caused by anemia, which is frequent in people with reduced glomerular filtration rate (GFR). (Wittbrodt et al, 2022).

Research indicates significant regional disparities in the frequency of anemia among individuals with chronic kidney disease (CKD). The prevalence of anemia in chronic kidney disease (CKD) is recorded as 14% in the USA, 39.36% in India, 51.5% in China, 43.18% in South Africa, and 79% in Cameroon. The prevalence escalates with the progression of CKD stages, with overall rates of 22.4%, 41.3%, and 53.9% in stages 3, 4, and 5, respectively. (Bishaw et al., 2023).According to statistics from the 2007-2010 National Health and Nutrition Examination Survey (NHANES), the prevalence of stage 1-5 chronic kidney disease (CKD) in the United States was 14.0%, or roughly 31.4 million people. During 2013-2016, the US Centers for Disease Control and Prevention estimated a 15% prevalence of chronic kidney disease stages 1 to 4 (eGFR 15-29 ml/min/1.73 m<sup>2</sup>). This equates to approximately 37 million people. Anemia becomes more common as the phases of chronic kidney disease (CKD) develop. The NHANES research found that 15.4% (or approximately 4.8 million people) had anemia associated with chronic kidney disease (CKD), with anemia prevalence rates of 17.4%, 50.3%, and 53.4% in stages 3, 4, and 5, respectively. (Hanna et al. 2021) Anemia is a prevalent and significant

complication of chronic kidney disease, and its prevalence rises as kidney function declines. The primary cause is typically a deficiency of erythropoietin, leading to symptoms such as fatigue, decreased appetite, and respiratory difficulties, all of which can diminish an individual's overall quality of life. Patients are interested in more than just elevating their hemoglobin levels - they also seek to enhance their energy, mood, sleep, and ability to function. Additionally, anemia is associated with severe illness and mortality. Recent data encompassing 12,362 adult chronic kidney disease patients revealed that survival rates were at their lowest when hemoglobin levels ranged from 12 to 12.9 g/dL in stages 4 and 5, even after accounting for other factors. (Awan et al.2021), For people who have CKD develop anemia, various difficulties arise. It has several physical and mental health impacts. People's perceptions of sickness, and more significantly, therapy, tend to focus on features of disease that are under biomedical control. Patients' delayed access to additional services is a major problem. In recent years, there have been recurrent assertions, notably in the United Kingdom, that the renal community has devalued the physical and psychological repercussions of anemia in order to avoid difficulty for patients who refuse erythropoietin treatment. However, except for certain diseases, parts of life impacted by anemia may be neglected in the renal unit when compared to outpatient travel or time (Alshelleh et al.2022).Health-related quality of life (HRQOL) and mental health in patients with CKD are modulated not only by physical activities but also by disease-related factors such as anemia and mineral disorders. CKD is associated with a high incidence of microvascular and neuropsychiatric complications, with approximately 55% of patients with CKD exhibiting anxiety and depression. When anemia is present, microvascular and neuropsychiatric complications will be more severe, including aggravation of anxiety and depression. The incidence of apathy and depression is high in patients with ESRD and dementia, and these diseases can be mitigated with higher hemoglobin levels. (Yarlioglu et al.2023)

**Subject (Material and Methods):**

Through the employment of an approach for the participant group, a quantitative design was employed in the current study from November 2023 to December 2024. The Kirkuk Teaching Hospital in the Iraqi city of Kirkuk and Al mal center for renal dialysis served as the study's sites. 341 patients who were having hemodialysis for more than four months (chronic case) at the Dialysis Unit/Kirkuk Teaching Hospital in 2024 were gathered using a non-probability (purposive) sampling approach. to ascertain how anemic patients receiving hemodialysis in Kirkuk City are affected in terms of their lifestyle. Each patient required around 25 to 30 minutes to complete the questionnaire, which included closed-ended questions. The total number of items in the questionnaire for data gathering purposes was 70. The procedure of gathering data was carried out between January 6 and March 30. The designed questionnaire and the interview approach were used to gather data; it took each patient around 25 to 30 minutes to complete the questionnaire. and a separate interview was conducted with each patient. The purpose of the questionnaire was to gather data on the patient's demographics, general information, laboratory blood tests, and quality of life categories relating to health. The information is

reviewed by subject-matter experts, and revisions are made in response to their advice. the researcher creates a questionnaire interview form for data collection, which includes five sections: The questionnaire consists of (70 statements) , A panel of experts evaluates the study instruments and program's content validity; the tools' dependability was assessed using a test-retest methodology and data from the evaluation of 10 patient. for assesses the degree to which items in a questionnaire or scale are interrelated and measure the same construct, the reliability coefficient was 0.70. The Statistical Package (SPSS) ver. 26.0 was used to analyse and evaluate the study's findings using statistical data analysis methods: Frequencies, percentages, the mean of the score (MS), , the standard deviation (SD), are used in descriptive analysis of data. Inferential data analysis is used to draw conclusions. The Independent-Samples t-test and Matched Paired-Samples t-test are used to compare means for two groups of cases.

**Statistical Analysis:**

Utilizing the statistical software (SPSS) ver. (26.0), the following statistical data analysis techniques were employed to analyses and evaluate the study's findings.

**Results:**

**Table (1): Socio-Demographical Characteristics of anemic patient undergoing hemodialysis (N=341)**

| Items                    | Classes                   | No.                  | %           | C.S. (*)<br>P-value   |
|--------------------------|---------------------------|----------------------|-------------|---|
| <b>Gender</b>            | <b>Male</b>               | <b>198</b>           | <b>58.1</b> | <b>P=0.003</b><br><b>(HS)</b>                                 |
|                          | <b>Female</b>             | <b>143</b>           | <b>41.9</b> |   |
| <b>Age Groups</b>        | <b>&lt; 20 yrs.</b>       | <b>8</b>             | <b>2.3</b>  | <b>χ<sup>2</sup>= 152.67</b><br><b>P=0.000</b><br><b>(HS)</b> |
|                          | <b>20 _</b>               | <b>22</b>            | <b>6.5</b>  |   |
|                          | <b>30 _</b>               | <b>36</b>            | <b>10.6</b> |   |
|                          | <b>40 _</b>               | <b>46</b>            | <b>13.5</b> |   |
|                          | <b>50 _</b>               | <b>84</b>            | <b>24.6</b> |   |
|                          | <b>60 _</b>               | <b>108</b>           | <b>31.7</b> |   |
|                          | <b>≥ 70 yrs.</b>          | <b>37</b>            | <b>10.9</b> |   |
|                          | <b>Mean ± SD</b>          | <b>53.87 ± 15.41</b> |             |   |
| <b>Educational level</b> | <b>Illiterate</b>         | <b>68</b>            | <b>19.9</b> | <b>χ<sup>2</sup>= 138.51</b><br><b>P=0.000</b><br><b>(HS)</b> |
|                          | <b>Read and write</b>     | <b>52</b>            | <b>15.2</b> |   |
|                          | <b>Primary</b>            | <b>91</b>            | <b>26.7</b> |   |
|                          | <b>Intermediate</b>       | <b>55</b>            | <b>16.1</b> |   |
|                          | <b>Preparatory School</b> | <b>24</b>            | <b>7.0</b>  |   |

|                  |                    |     |      |                                     |
|------------------|--------------------|-----|------|-------------------------------------|
|                  | Institute graduate | 28  | 8.2  | $\chi^2= 164.88$<br>P=0.000<br>(HS) |
|                  | College graduate   | 21  | 6.2  |                                     |
|                  | Post graduate      | 2   | 0.6  |                                     |
| Occupation       | Employed           | 30  | 8.8  |                                     |
|                  | Free works         | 37  | 10.9 |                                     |
|                  | Housewife          | 128 | 37.5 |                                     |
|                  | Retired            | 53  | 15.5 |                                     |
|                  | Not working        | 85  | 24.9 |                                     |
|                  | Student            | 8   | 2.3  |                                     |
| Marital Status   | Single             | 40  | 11.7 | $\chi^2= 547.90$<br>P=0.000<br>(HS) |
|                  | Married            | 271 | 79.5 |                                     |
|                  | Divorced           | 27  | 7.9  |                                     |
|                  | Widow              | 3   | 0.9  |                                     |
| Residency        | Urban              | 269 | 78.9 | P=0.003<br>(HS)                     |
|                  | Rural              | 72  | 21.1 |                                     |
| Financial Status | Insufficient       | 110 | 32.3 | $\chi^2= 71.126$<br>P=0.000<br>(HS) |
|                  | Barely Sufficient  | 179 | 52.5 |                                     |
|                  | Sufficient         | 52  | 15.2 |                                     |

(\*) HS: Highly Sig. at P<0.01; Testing based on One-Sample Chi-Square test, and Binomial test.

Table 1 Concerning "Gender" The findings reveal that over two-thirds of the sampled population were male, accounting for 198 (58.1%), while the "Age groups" included 229 (67.2%) of the sampled population who were 50 years of age or older. Since 211 (61.9%) of the sampled individuals are allocated to elementary and below education levels, "Educational attainment" indicates that around two thirds of them have low levels of education. "Occupation" reveals that over three-quarters of the sampled individuals under study are classified as "Housewife, Not working, and

Retired," accounting for 266 individuals (78.01%). "Marital Status" indicates that over three-quarters of the sampled population under study are classified as "Married," accounting for 271 (79.5%). "Residency" indicates that almost three-quarters of the sample under study comes from the category "Urban Residents" accounts for 269 people (78.9%). "Financial Status" indicates that, with 289 (84.75%) accounted for, the majority of the sampled individuals under study are classified as having insufficient or barely sufficient financial status.

**Table (2): Clinical Characteristics of anemic patient undergoing hemodialysis (N=341)**

| Items                  | Classes       | No. | %    | C.S. (*)<br>P-value                 |
|------------------------|---------------|-----|------|-------------------------------------|
| Body Mass Index<br>BMI | Under weight  | 9   | 2.6  | $\chi^2= 120.55$<br>P=0.000<br>(HS) |
|                        | Normal weight | 109 | 32.0 |                                     |
|                        | Overweight    | 147 | 43.1 |                                     |
|                        | Obese         | 76  | 22.3 |                                     |
| Blood groups           | A +           | 55  | 16.1 | $\chi^2= 698.79$<br>P=0.000<br>(HS) |
|                        | A -           | 3   | 0.9  |                                     |
|                        | B +           | 50  | 14.7 |                                     |
|                        | B -           | 1   | 0.3  |                                     |
|                        | AB +          | 26  | 7.6  |                                     |
|                        | AB -          | 2   | 0.6  |                                     |
|                        | O +           | 195 | 57.2 |                                     |

|  |                 |     |      |                                     |
|--|-----------------|-----|------|-------------------------------------|
|  | O -             | 9   | 2.6  |                                     |
| Family history of anemia                         | No              | 303 | 88.9 | P=0.000                             |
|  | Yes             | 38  | 11.1 | (HS)                                |
| Family history of chronic kidney disease (CKD's) | No              | 290 | 85.0 | P=0.000                             |
|  | Yes             | 51  | 15.0 | (HS)                                |
| Duration of Hemodialysis                         | < 6 m.          | 65  | 19.1 | $\chi^2= 22.994$<br>P=0.000<br>(HS) |
|  | 6 _ 12 m.       | 59  | 17.3 |                                     |
|  | 1 _ 2 yrs.      | 72  | 21.1 |                                     |
|  | 3 _ 4 yrs.      | 71  | 20.8 |                                     |
|  | 5 _ 6 yrs.      | 34  | 10.0 |                                     |
|  | > 6 yrs.        | 40  | 11.7 |                                     |
| Frequency of Hemodialysis                        | 1 time per week | 9   | 2.6  | $\chi^2= 452.75$<br>P=0.000<br>(HS) |
|  | 2 time per week | 81  | 23.8 |                                     |
|  | 3 time per week | 247 | 72.4 |                                     |
|  | Others          | 4   | 1.2  |                                     |
|  | 2500            | 11  | 3.2  |                                     |
|  | 3750            | 25  | 7.3  |                                     |
|  | 5000            | 194 | 56.9 |                                     |
|  | More            | 71  | 20.8 |                                     |
| Time of Hemodialysis /day                        | 1 hrs.          | 0   | 0.00 | $\chi^2= 233.69$<br>P=0.000<br>(HS) |
|  | 2 hrs.          | 3   | 0.90 |                                     |
|  | 3 hrs.          | 233 | 68.3 |                                     |
|  | 4 hrs.          | 105 | 30.8 |                                     |

(\*) HS: Highly Sig. at P<0.01; Testing based on One-Sample Chi-Square test, and Binomial test.

Table (2) About the "Body mass index" The findings indicate that over two-thirds of the sampled population is classified as overweight or obese, accounting for 223 (65.4%) of the total. "Family History of anemia": 326 patients (95.60%) were assigned a family history of anemia, whereas 38 patients (11.1%) were allocated a family history of anemia. The majority of patients are assigned + Rh. "Family History of Chronic Kidney Diseases (CKD's)" Only 51 people (15.0%) were given a CKD family history. "Duration of Hemodialysis" reveals that over two-thirds of the

sampled individuals are accounted for 217 (63.64%) and have been assigned a "Hemodialysis" duration of one year or more. "Frequency of Hemodialysis" reveals that around three-quarters of the analyzed individuals are allocated "three times per week," accounting for 247 (72.4%). "Time of Hemodialysis/day" Shows that more than third of studied sampled assigned at 3hrs. needed time, and they are accounted 233(68.3%). In addition, most of the leftover patients has assigned at 4hrs. of needed time, and they are accounted 105(30.8%).

**Table (3): Summary Statistics of patients responding of Health-related Quality of Life's items concerning of Social domain (N=341)**

| Items           | Response  | No. | %    | MS   | SD   | RS%<br>Ass. |
|-----------------|-----------|-----|------|------|------|-------------|
| I feel isolated | Never     | 150 | 44.0 | 1.76 | 0.76 | 58.67       |
|                 | Sometimes | 124 | 36.4 |      |      |             |
|                 | Always    | 67  | 19.6 |      |      |             |

|  |           |     |      |      |      |       |   |
|--|-----------|-----|------|------|------|-------|---|
| I prefer to be alone                                   | Never     | 150 | 44.0 | 1.72 | 0.73 | 57.33 |   |
|  | Sometimes | 135 | 39.6 |      |      |       | M |
|  | Always    | 56  | 16.4 |      |      |       |   |
| I have good relation with my family members and others | Never     | 13  | 3.8  | 2.60 | 0.56 | 86.67 |   |
|  | Sometimes | 109 | 32.0 |      |      |       | L |
|  | Always    | 219 | 64.2 |      |      |       |   |
| I have opportunity for recreational activities         | Never     | 66  | 19.4 | 2.17 | 0.73 | 72.33 |   |
|  | Sometimes | 152 | 44.6 |      |      |       | L |
|  | Always    | 123 | 36.1 |      |      |       |   |
| I participate in social activities                     | Never     | 107 | 31.4 | 1.96 | 0.77 | 65.33 |   |
|  | Sometimes | 141 | 41.3 |      |      |       | M |
|  | Always    | 93  | 27.3 |      |      |       |   |

RS%: Relative Sufficiency Assess by (L: Low; M: Moderate; H: High).

Red color items reversed measuring scale, and that reverse an evaluates of using score.

Table (3) Regarding of HRQoL concerning of "social domain's " items for the studied of anemic patients with CKD's are assigned at a moderate to low impacts levels, since 3(60.0%) items were reported at a moderate impact level, and 2(40.0%) items were reported at a low level.

Table (4): Summary Statistics of patients responding of Health related Quality of Life's items concerning of Adaptation of life Domain (N=341)

| Items  | Response  | No. | %    | MS   | SD   | RS% Ass. |   |
|--|-----------|-----|------|------|------|----------|---|
| I go to worship place                              | Never     | 126 | 37.0 | 1.83 | 0.73 | 61.00    |   |
|  | Sometimes | 148 | 43.4 |      |      |          | M |
|  | Always    | 67  | 19.6 |      |      |          |   |
| I have spiritual believe for psychological support | Never     | 7   | 2.1  | 2.66 | 0.52 | 88.67    |   |
|  | Sometimes | 103 | 30.2 |      |      |          | L |
|  | Always    | 231 | 67.7 |      |      |          |   |
| I feel the sickness is to penance my sins          | Never     | 42  | 12.3 | 2.47 | 0.70 | 82.33    |   |
|  | Sometimes | 98  | 28.7 |      |      |          | L |
|  | Always    | 201 | 58.9 |      |      |          |   |
| My religion activities reduced                     | Never     | 64  | 18.8 | 2.03 | 0.64 | 67.67    |   |
|  | Sometimes | 203 | 59.5 |      |      |          | H |
|  | Always    | 74  | 21.7 |      |      |          |   |
| I believe the religion is important to me          | Never     | 0   | 0.0  | 3.00 | 0.00 | 100      |   |
|  | Sometimes | 0   | 0.0  |      |      |          | L |
|  | Always    | 341 | 100  |      |      |          |   |
| I am afraid of future                              | Never     | 89  | 26.1 | 2.02 | 0.74 | 67.33    |   |
|  | Sometimes | 157 | 46.0 |      |      |          | H |
|  | Always    | 95  | 27.9 |      |      |          |   |
| I feel that my life is worthy                      | Never     | 14  | 4.1  | 2.51 | 0.58 | 83.67    |   |
|  | Sometimes | 140 | 41.1 |      |      |          | L |
|  | Always    | 187 | 54.8 |      |      |          |   |
| I enjoy my life                                    | Never     | 12  | 3.5  | 2.37 | 0.55 | 79.00    |   |
|  | Sometimes | 192 | 56.3 |      |      |          | L |
|  | Always    | 137 | 40.2 |      |      |          |   |

RS%: Relative Sufficiency Assess by (L: Low; M: Moderate; H: High).

Red color items reversed measuring scale, and that reverse an evaluates of using score

Table (4) Regarding of health related quality of life with respect to "adaptation of life" items for the studied of anemic patients with CKD's are assigned at a low impacts level mostly, since 5(62.5%) items were reported at a low impact level, and the rest items were reported around the moderate impact level indeed.

### Discussions:

According to the results of the current investigation, Table 4-1 indicates that males made up 58.1% of anemic patients with Chronic Kidney Diseases. On the other hand, women made up just 41.9% of the research sample. These results are consistent with a previous cross-sectional research by Sofue et al. (2020) that used data from Japan. The results of our own study show a significant rise in prevalence among men rather than women, which is consistent with the findings of the previous study, which showed that 54.5% of the patients were male. The results of the earlier study conducted in Iraq by Kumait and Taha (2024) showed that there are more men than women among the hemodialysis patients, accounting for 60 (60.0%) of the total. In this study, 229 participants, or more than two-thirds (67.2%) of the sampled persons, were 50 years of age or older. These findings corroborate those of the earlier study by Kamil et al. (2021) that used data from Basrah. In line with our study, the results show that the age group of patients aged 46–55 accounted for 27.8% of the total, while the age group of patients aged 56–65 accounted for 20.1%. 211 people (61.8%) had only finished primary school, making up around two-thirds of the sampled population with low educational attainment. These results support the earlier investigation carried out in Palestine by Al-Jabi et al. (2023). The study revealed that a significant percentage of patients had poor levels of education were about (43.8%). This conclusion indicates that a significant fraction of the analyzed group had primary education or lower. The analysis reveals that a significant majority, specifically (77.9%), of the sampled individuals fall into the categories of "Housewife," "Not working," and "Retired." This accounts for a total of (266) individuals. These findings corroborate the prior study conducted by Nurchayati et al. in (2022). The

research was carried out in the Indonesia. The survey revealed that a significant percentage of patients were 20% house wife, 60% unemployed patients. Based on those findings can be interpreted that majority of participant was unemployed patients.. This aligns that over (80%) of the sample analyzed belonged to these classifications. A total of (271) individuals, which represents (79.5%) of the sampled population, are classified as "Married". These results align with a previous research by Hassan and Mohammed from 2022. The survey, which was carried out in Kirkuk, Iraq, revealed that 86.7% of the sample was married. The results of another study are in line with those of a previous investigation carried out by Krishnan et al. in 2020. The results of an Australian investigation indicated that a sizable portion of the patients were married. This result demonstrates that more than 71.8% of the sample group was married. More than 75% of the tested population is categorized as "Urban Residents," with 269 people (78.9%). These results support the earlier research on Oman by Al Salmi et al. in 2021, which revealed that 85% of the patients reside in an urban environment. 179% of the samples in our study (52.5%) had barely enough financial condition (from the perspective of the patient). These results support the earlier research by Ng et al. (2023) in Hong Kong, which found that 61.2% of people lived below the poverty line. According to the data, around 65.4% of the sample is overweight or obese, which is in line with research conducted in Poland by Badura et al. (2024). Rh-positive individuals make up 95.60% of anemic CKD patients, which is consistent with Shen et al. (2021) in China. Kakitapalli et al. (2019) found that a larger waist circumference is linked to a greater risk of CKD. A family history of anemia is present in just 11.1% of the sample, according to Portolés et al. (2021) in Spain. In line with Meisinger et al. (2021), 15% had a family history of chronic kidney disease. According to Moura et al., around 63.64% had received hemodialysis for a year or longer (2023). Furthermore, 73.61% do hemodialysis at least three times a week.

A significant 77.71% are prescribed 5000 units or more of Heparin per dialysis, supported by Steven

M. et al. (2023). Lastly, 68.3% require 3-hour hemodialysis sessions, with 30.8% needing 4-hour sessions, similar to findings by Berns and Qunibi (2024). With 60% of items at a moderate effect level and 40% at a low impact level, the study shows that anemic CKD patients have moderate to low impact levels in the social domain of health-related quality of life (QoL). This is consistent with research by Mokhtari-Hessari & Montazeri (2020) in the US and Safi et al. (2024) in Poland that emphasizes the value of social support from friends and family in boosting patients' resilience, well-being, and self-efficacy. The study highlights how important it is for CKD patients to have access to leisure activities and healthy relationships in order to retain a high quality of life. The study indicates that anemic CKD patients predominantly experience low impact levels in life adaptation items related to health-related quality of life (HRQoL), with 62.5% of items at a low impact level and the rest at a moderate level. This aligns with Krantz et al. (2019) in Sweden, which found that individuals with strong social networks and psychological support adapt better to life changes and stressors. The research highlights the importance of a comprehensive approach to understanding and improving HRQoL, considering psychological, social, and physical elements.

### Conclusion:

According to their SDCv, the sample of anemic patients with CKDs under study showed that there were more men than women in the gender group, that the number of elderly patients was rising, that the number of patients with low educational attainment was rising, that the majority of the patients were housewives and not employed in their occupation, and that the majority of them had poor financial status. According to the general data collected from anemic patients with chronic kidney disease (CKD), the majority of them were overweight, roughly two-thirds of the sampled individuals had been assigned to "hemodialysis" for one to two years, had three times the weekly frequency of hemodialysis, and typically took three hours to complete. regarding the chronic conditions present in the samples, the findings indicate that over one-third of the participants in the study were

given abnormal results from the "Diabetic" test, and over three-quarters of the participants were given abnormal results from the blood pressure test. Since the majority of the items in the QoL domain that were investigated had high to moderate effect levels on health-related factors, the anemic patients with CKD exhibited worse health-related QoL. Since the majority of the items in the independence domain that were evaluated had low effect levels, the anemic patients with CKD had a low impact with regard to independence domain items affecting health-related QoL. Given that two-thirds of the social domain items in the study registered at a moderate level and the remaining items at a low impact level, the anemic patients with chronic kidney disease (CKD) have moderate to low effects levels with regard to health-related QoL. Given that two-thirds of the items examined in the adaptation of life domain were at a low impact level and the remaining items were at a border to high moderate level, the anemic patients with chronic kidney disease (CKD) had a low to high border of moderate impact level with regard to health-related QoL.

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