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Impact of anemia on quality-of-life of patients with chronic kidney disease in Kirkuk city

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Abstract

Background and aim: Chronic kidney disease is abnormal in kidney structure or function, that leads to several long-term complications one of them is anemia. This study aims to investigate the impact of anemia on the quality of life among patients with chronic kidney disease undergoing renal dialysis in Kirkuk City.

Objective: to Identify the distribution of (Socio-Demographic Characteristics) variable's sample of anemic patients undergoing dialysis and Evaluation of clinical tests for studied sample of anemic patients undergoing dialysis. And the impact of anemia in chronic kidney patients who undergo dialysis on their health related quality of health life. the relationships between the health-related quality of life of anemic patients undergoing dialysis and the variables.

Methods: A quantitative/descriptive design was applied between November 2023 to December 2024. Non-probability (purposive) samples were selected from Kirkuk Teaching Hospital and Al-Amal Center1 for kidney dialysis in Kirkuk City. The study was conducted on 341 patients undergoing hemodialysis. A questionnaire and interview were used as data collection tools. descriptive and inferential statistical methods were used.

Results: Men more than women (58.1%), more of the samples were aged 50 years and more (67.2%). Most of them had low education levels (61.9%), more than three-quarters of the studied sampled were assigned "Housewife, Not working, and Retired"(78.01%), most of them were assigned an insufficient, and barely sufficient financial status (84.75%). Almost all laboratory tests that indicate there is anemia were (abnormal). The HRQoL has declined in physical, and psychological domains.

Conclusions and Recommendations: Regarding patients' Relationships between overall assessment through PGMS and respondents' Laboratory blood test outcomes the results show that significant relationship it could be concluded that abnormal current Hb level, Current Ferritin, Current RBC level, S-Iron, and PCV are more impacted level with their HRQoL.

Keywords: Impact, anemia, patient, health-related quality chronic kidney disease, of life

Introduction

Chronic kidney disease (CKD) is a silent disease that is often diagnosed only in its most advanced stages. This is due in part to the fact that CKD does not have easily identifiable symptoms until the patient is in the more severe stages and has uremic symptoms, which increases the difficulty of the problems associated with CKD. However, CKD is an important health problem that not only involves mortality but also causes a significant decrease in the quality of life of patients, which is why it should be recognized earlier to change the natural history of the disease.

Patients with CKD typically have several long-term complications, including fatigue, pain, sleep disturbances, restless leg syndrome, anorexia, heart failure, angina, and sexual dysfunction. Fatigue may be due to the anemia that is commonly seen with patients with decreased glomerular filtration rate (GFR).

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.

In the United States, the prevalence of stage 1–5 chronic kidney disease (CKD) was 14.0%, equating to approximately 31.4 million individuals, based on data from the National Health and Nutrition Examination Survey (NHANES) conducted between 2007 and 2010. The US Centers for Disease Control and Prevention projected that the prevalence of chronic kidney disease stages 1 to 4 (eGFR 15–29 ml/min/1.73 m²) was 15% (about 37 million individuals) throughout 2013–2016. The prevalence of anemia escalates with the progression of chronic kidney disease (CKD) stages (Kumait, 2024) [10]. The NHANES analysis revealed that 15.4% (about 4.8 million individuals) exhibited 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 CKD, respectively.

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.

If patients with CKD experience anemia, some complications are present. It includes many physical and mental health effects. People's experience of disease and, more importantly, treatment tends to concentrate on aspects of disease that may be under biomedical control. Patients' delayed access to other services is an important concern. In recent years, there have been repeated claims, particularly in the United Kingdom, that the physical and psychological effects of anemia have been undervalued by the renal community to minimize inconvenience to patients who refuse erythropoietin treatment. And yet, it is possible that, except for specific conditions, aspects of life affected by anemia may be underserved in the renal unit compared to outpatient travel or time.

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.

Subject (Materials and Methods)

A quantitative / descriptive design had been used through the present study with the application of approach for participant group during the period of 1 of November 2023 to the 15th of December 2024. The study was carried out on the Kirkuk Teaching Hospital and Al-Amal Center1 for kidney dialysis Kirkuk City; region of Iraq. A non-probability (purposive)sampling technique was utilized to collect data from (341) patient out of (370) that they are chronic kidney disease patients undergoing hemodialysis more than 4 months (chronic case) in the year 2024 at Dialysis Unit/Kirkuk Teaching Hospital and Al-Amal center1 for kidney dialysis. To determine the Impact of anemia on quality of life of patients with chronic kidney disease undergoing hemodialysis in kirkuk city questionnaire The questionnaire consisted of close-end questions and took approximately 20-25 minutes to complete for each patient. for the purpose of data collection the overall items included in the questionnaire were (70) items, The data collection process was performed from (1st January to 30 March), Data was collected through the use of the constructed questionnaire and the interview technique as a means of data collection, each patient took approximately (20 – 25 min) to respond to the questionnaire. and the interview was performed for each patient individually. The questionnaire was designed to collect information about the patient demographic characteristics, General information, Laboratory blood tests, and health-related quality of life domains. Experts in various fields evaluate the content, and changes are made based on their recommendations and suggestions. the researcher creates a questionnaire interview form for data collection, which includes five sections: The questionnaire consists of (70statements) , questions and took approximately 20-25 minutes to complete for each patient . 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) Regarding of "Gender" Results shows that about two third of the studied sampled of male and accounted 198(58.1%),"Age groups" more than two third of the studied sampled aged at 50 years and more, and they are accounted 229(67.2%),"Educational attainment" Shows that about two third of the studied sampled has low educated levels, since of them 211(61.9%) are assigned at primary and less education levels, "Occupation" Shows that more than three quarters of the studied sampled are assigned "Housewife, Not working, and Retired", and they are accounted 266(78.01%), "Marital Status" Shows that more than three quarters of the studied sampled are assigned "Married", and they are accounted 271(79.5%), "Residency" Shows that more than three quarters of the studied sampled are assigned from the "Urban Residents", and they are accounted 269(78.9%)."Financial Status" Shows that most of the studied sampled are assigned insufficient, and barely sufficient financial status, since they are accounted 289(84.75%).

Table 1: Patients Socio-Demographical Characteristics variables (N=341)

SDCv.	Classes	No.	%	C.S. (*) P-value
Gender	Male	198	58.1	P=0.003 (HS)
	Female	143	41.9	
Age Groups Yrs.	< 20 yrs.	8	2.3	χ^2= 152.67 P=0.000 (HS)
	20 _	22	6.5	
	30 _	36	10.6	
	40 _	46	13.5	
	50 _	84	24.6	
	60 _	108	31.7	
	≥ 70 yrs.	37	10.9	
	Mean ± SD	53.87 ± 15.41		
Educational attainment	Illiterate	68	19.9	χ^2= 138.51 P=0.000 (HS)
	Read and write	52	15.2	
	Primary	91	26.7	
	Intermediate	55	16.1	
	Preparatory School	24	7.0	
	Institute graduate	28	8.2	
	College graduate	21	6.2	
	Post graduate	2	0.6	
Occupation	Employed	30	8.8	χ^2= 164.88 P=0.000 (HS)
	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	χ^2= 547.90 P=0.000 (HS)
	Married	271	79.5	
	Divorced	27	7.9	
	Widow	3	0.9	
Residency	Urban	269	78.9	P=0.003 (HS)
	Rural	72	21.1	
Financial Status	Insufficient	110	32.3	χ^2= 71.126 P=0.000 (HS)
	Barely Sufficient	179	52.5	
	Sufficient	52	15.2	

Table 2: Redistribution of studied anemic patients with CKD's undergoing Laboratory Blood tests, (N=341)

Laboratory Blood tests	Classes	No.	%	C.S. (*) P-value
Current Hb level	Normal	32	9.4	P=0.000 (HS)
	Abnormal	309	90.6	
Current Ferritin level	Normal	34	10	P=0.000 (HS)
	Abnormal	307	90	
Current RBC level	Normal	81	23.8	P=0.000 (HS)
	Abnormal	260	76.2	
Current vitamin D level	Normal	4	1.2	P=0.000 (HS)
	Abnormal	337	98.8	
S Iron	Normal	212	62.2	P=0.000 (HS)
	Abnormal	129	37.8	
PCV	Normal	49	14.4	P=0.000 (HS)
	Abnormal	292	85.6	
Platelet	Normal	225	66	P=0.000 (HS)
	Abnormal	116	34	

(*) HS: Highly Sig. at P<0.01; Testing based on the Binomial test.

Table (2) Regarding of "Hb" Results shows that the most of the studied sampled are assigned abnormal, since they are accounted 309(90.6%). Regarding of "Ferritin" Results shows that the most of the studied sampled are assigned abnormal, since they are accounted 307(90.0%). Regarding of "Current RBC level test" Results shows more than three quarters of the studied sampled are assigned abnormal, and they are accounted 260(76.2%). Regarding "Current Vitamin D test" Results shows that most of the studied sampled are assigned abnormal, they are accounted 337(98. 8%). Regarding "S Iron test" Results shows that 129(37.8%) of the studied patients has assigned abnormal outcome's. Regarding "PCV test" Results shows that most of studied sampled are assigned abnormal outcome's, they are accounted 292(85.6%). Regarding "Platelet test" Results shows that 116(34.0%) of the studied patients has assigned abnormal outcome's.

Table 3: Summary Statistics of Percentile Scoring Scale of an Overall HRQoL studied domains for anemic patients with KCD's (N=341)

Studied Domains	No.	Min.	Max.	PGMS	PSD	Impact Ass.
Physical domain	341	6.67	93.33	54.62	16.20	M
Independence domain	341	0.00	68.75	35.30	13.89	M
Social domain	341	0.00	100	37.51	21.06	M
Psychological domains	341	0.00	100	50.62	20.20	M
Adaptation of life	341	0.00	68.75	32.64	11.96	L
Overall Health-Related Quality of life	341	5.08	69.50	42.14	10.46	M

PGMS: Percentile Grand Mean of Score; PSD: Pooled Standard deviation; r

Impact assess by: (Low, Moderate, and High) according to [(0.0 – 33.33), (33.34 – 66.66), and (66.67 – 100)] intervals respectively.

Table (3) Regarding to subjects of the studied assess domains, results showed that a moderate level of assess were accounted mostly for the anemic patients with CKD's, as well as an overall assessing, but according to what achieved by estimating of PGMS, results shows that "Independence, Social, and Adaptation of life" domains, as well as an overall assessment, which were registered {Percentile Grand Mean of Score-PGMS} border to low impact level, which reflects the fact that the HRQoL has decline toward physical, and psychological domains indeed.

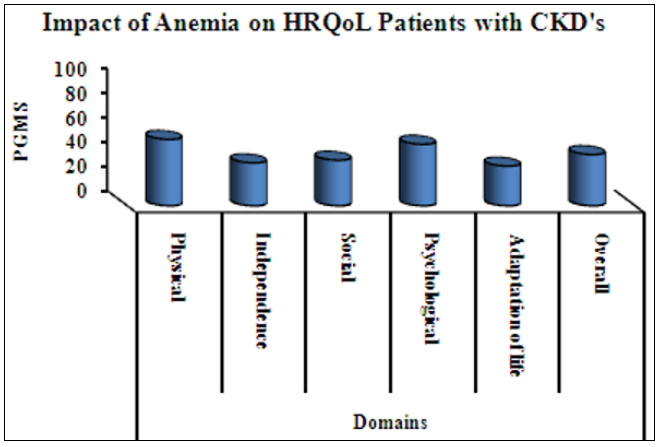

Fig 1: Distribution of Percentile Grand/Global Mean of Score for General HRQoL Patient with CKD's main domains

Table 4: Relationships between overall assessment through PGMS and respondent's Laboratory blood test's outcomes (N=341)

Laboratory blood test's outcomes	Classes	No. & %	Overall Domains		Total	C.S. P-value
			Under Md	Upper Md		
Current Hb level	Normal	No.	20	12	32	C.C. = 0.121 P = 0.025 S
		%	14.6%	7.1%	9.4%	
	Abnormal	No.	151	158	309	
		%	85.4%	92.9%	90.6%	
Current Ferritin level	Normal	No.	19	15	34	C.C. = 0.038 P = 0.481 NS
		%	11.1%	8.8%	10.0%	
	Abnormal	No.	152	155	307	
		%	88.9%	91.2%	90.0%	
Current RBC level	Normal	No.	44	37	81	C.C. = 0.047 P = 0.390 NS
		%	25.7%	21.8%	21.8%	
	Abnormal	No.	127	133	260	
		%	74.3%	78.2%	76.2%	
Current vitamin D level	Normal	No.	2	2	4	C.C. = 0.000 P = 0.995 NS
		%	1.20%	1.20%	1.2%	
	Abnormal	No.	169	168	337	
		%	98.8%	98.8%	98.8%	
S Iron	Normal	No.	110	102	212	C.C. = 0.045 P = 0.410 NS
		%	64.3%	60.0%	62.2%	
	Abnormal	No.	61	68	129	
		%	35.7%	40.0%	37.8%	
PCV	Normal	No.	31	18	49	C.C. = 0.084 P = 0.047 S
		%	18.1%	10.6%	14.4%	
	Abnormal	No.	140	152	292	
		%	81.9%	89.4%	85.6%	
Platelet	Normal	No.	110	115	225	C.C. = 0.035 P = 0.518 NS
		%	64.0%	67.6%	66.0%	
	Abnormal	No.	61	55	116	
		%	35.7%	32.4%	34.0%	

(*) HS: Sig. at P<0.05;S; NS: No Sig. at P>0.05; Statistical hypothesis are based on a Contingency's Coefficient test with significant levels of Chi-Square for independency test.

Regarding relationships among redistribution of an overall assessment and (Laboratory blood test's outcomes) in the table (4) respectively "Current Hb level, Current Ferritin level, Current RBC level, Current vitamin D level, S Iron, Thyroid, PCV, and Platelet), results shows that most of studied sample are recorded abnormal outcomes, rather than simply stating that abnormality reading's patients have more impacted level with their HRQoL compared with the other abnormal patients. And "Platelet" Results shows that those who caused with Platelet disorder outcomes were forming asymptotic similar state numbers among the studied sample redistributed by the PGMS concerning of HRQoL, and therefore the distribution results cannot be relied upon to indicate the impact of the aforementioned preceding disorder.

Discussions

The findings of the current study reveal that 58.1% of patients with Chronic Kidney Diseases who were anemic were male, as shown in Table 4-1. In contrast, only (41.9%) of the study sample consisted of females. These findings corroborate a prior study conducted by Sofue *et al*. (2020) [19], which was a cross-sectional study that utilized data from Japan. The findings of the previous study indicate that (54.5%) of the patients were male, which aligns with our own study's results that demonstrate a large increase in prevalence among men, rather than women. The findings of the previous study done by (Kumait& Taha 2024) [10] in Iraq that highlighted that male are more than female and constitute 60 (60.0%), in the hemodialysis patients. Over two-thirds (67.2%) of the sampled individuals in this study were aged (50) years or older, amounting to a total of 229 participants. These results support the findings of the previous study that utilized data from Basrah conducted by Kamil *et al*. (2021). The findings indicate that the age group (46-55) were (27.8%) of the patients and another age group (56-65) were (20.1%) these two age groups were more than other age group which agree with our study. Around two-thirds of the sampled population have low levels of education, with 211 individuals (61.8%) having completed primary education or less. These findings corroborate the prior study conducted by Al-Jabi *et al*. (2023) [3] in Palestine. 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) [15]. The research was carried out in the Indonesia. The survey revealed that a significant percentage of patients were20% 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 findings are consistent with a prior study conducted

by Hassan and Mohammed in 2022 The study conducted in iraq /kirkuk the study showed that the majority of the sample were married (86.7%). In another study findings are consistent with a prior study conducted by Krishnan *et al*. in 2020 [9] The study conducted in Australia the study showed that revealed a significant percentage of patients were married. This finding confirms that over (71.8%) of the sample population under investigation were married. Over (75%) of the sampled individuals are classified as "Urban Residents," including a total of 269 individuals (78.9%). These findings corroborate the prior study conducted on Oman by Al Salmi *et al*. in (2021) showed that a total of 85% of the patients live in an urban area. In our study (52.5%), (179) individuals of the samples have barely sufficient financial status (as a patient point of view) These findings corroborate the prior study conducted by Ng *et al*. (2023) in Hong Kong indicating that 61.2% were below the poverty line .The study's results indicate extremely significant disparities between the actual and predicted outcomes, assuming a random distribution, with $p<0.01$.The current Ferritin level test findings indicate that the majority of the sampled subjects, 309 (90.0%), exhibit abnormal outcomes. The current RBC level test findings indicate that almost three-quarters of the sampled subjects exhibit abnormal outcomes, totaling 260 (76.2%). The current Ferritin level test findings indicate that the majority of the sampled subjects, 337 (98.8%), exhibit abnormal outcomes. The S Iron test findings indicate that 129 individuals (37.8%) had aberrant outcomes attributed to the S Iron test. The PCV test findings indicate that the majority of the analyzed samples, totaling 292 (85.6%), are classified as having abnormal outcomes. The platelet test findings indicate that 129 (37.8%) of the investigated patients had aberrant outcomes, whereas 116 (34.0%) were accounted for owing to the platelet test. This conclusion aligns with other studies conducted by Dasgupta *et al*. (2024) [5] in Europe and Portolés *et al*. (2021) [16] in Spain, which demonstrate the prevalence and significance of anemia in patients with chronic kidney disease (CKD). Anemia is a prevalent consequence in chronic kidney disease (CKD), with substantial percentages of patients exhibiting aberrant results in many blood tests, akin to the findings I previously detailed. Ferritin Concentrations, The research indicates that iron insufficiency is prevalent among CKD patients, frequently evidenced by irregular ferritin levels. Red Blood Cell Levels, Anemia in chronic kidney disease (CKD) is often linked to diminished red blood cell (RBC) numbers resulting from decreased erythropoietin synthesis. Iron Concentrations, Abnormal serum iron concentrations are prevalent, exacerbating the overall anemia. PCV and Platelet Quantifications, The study indicates that hematocrit (PCV) and platelet counts may be altered in individuals with chronic kidney disease (CKD), resulting in aberrant findings. Anemic individuals with chronic kidney disease (CKD) predominantly experience high to moderate levels of impact on their health-related quality of life (HRQoL) in the physical domain. Specifically, 60% of the assessed items were rated high, 33.33% moderate, and only 6.67% low. This indicates a significant decline in HRQoL. The study by Van Haalen *et al*. (2020) [20] across multiple countries found that HRQoL deteriorated dramatically across several domains, including physical health. Issues like less sleep, discomfort, lower limb problems, and reduced hemoglobin levels significantly affected patients' physical functioning and overall quality of life. Most items (75%) show a low impact, indicating minimal effect on independence. This aligns with studies by Dasgupta *et al*. (2024) [5] and Van Haalen *et al*. (2020) [20], which found lower scores in anemic patients compared to non-anemic ones. Items are mostly moderate (60%) to low (40%) impact, suggesting moderate to low effects on social life. Studies by Safi *et al*. (2024) [17] and Mokhtari-Hessari & Montazeri (2020) [13] highlight the importance of social support for better outcomes.

High (60%) to moderate (20%) impact, indicating significant psychological effects. Studies by Seery and Buchanan (2022) [18] and Mathias *et al*. (2020) [11] emphasize the need for psychological support. Predominantly low (62.5%) impact, with some moderate effects.

Krantz *et al*. (2019) [8] found that strong social networks and psychological support improve adaptation. Results indicate that weak relationships are attributed to the redistribution by percentile of the global mean scores of anemic patients' HRQoL with CKD and their laboratory blood test outcomes at $P>0.05$, except for the "Current Hb level and PCV" tests, where significant relationships are reported at $P<0.05$. The current hemoglobin level results indicate a significant link at $P<0.05$ between the redistribution of PGMS and HRQoL. Consequently, it can be concluded that patients with aberrant current hemoglobin levels experience a greater impact on their HRQoL compared to other patients. The present Ferritin levels indicate that the majority of the analyzed samples exhibit abnormal results. This suggests that patients with abnormal readings experience a more significant impact on their Health-Related Quality of Life (HRQoL) compared to other patients with abnormal results. This corresponds with the research conducted by Guedes *et al*. (2020) [7] in the United States, which revealed that reduced hemoglobin levels were strongly linked to poorer health-related quality of life across several domains, including physical and mental health. This study further emphasized that anemia intensifies the adverse effects of chronic kidney disease on health-related quality of life. The present RBC levels indicate that the majority of the investigated samples exhibit abnormal results, suggesting that individuals with abnormal readings experience a more significant impact on their HRQoL compared to other patients with abnormalities. Present vitamin D concentration, The results indicate that individuals with current vitamin D level disorders exhibited similar numerical distributions within the studied sample, as analyzed through the PGMS concerning HRQoL. Consequently, the distribution results cannot be deemed reliable for indicating the impact of the aforementioned disorder. This outcome corresponds with the research conducted by Cross *et al*. (2022) [4] and the investigations by De Souza *et al*. (2022) [6] and Alcubierre *et al*. (2018) [2]. This study identified a strong association between reduced hemoglobin (Hb) levels, closely linked to RBC counts, and diminished health-related quality of life (HRQoL) in patients with chronic kidney disease (CKD). The study emphasized that anemia intensifies the adverse effects of chronic kidney disease on health-related quality of life, and it identified a correlation between vitamin D insufficiency and diminished satisfaction with diabetes management and

overall quality of life. This indicates that vitamin D levels might substantially influence health-related quality of life (HRQoL), which may also pertain to chronic kidney disease (CKD) patients, since vitamin D insufficiency was linked to poorer HRQoL in breast cancer survivors. The findings indicate that vitamin D levels may affect health-related quality of life, notwithstanding variations in the patient group. These studies demonstrate that aberrant red blood cell and vitamin D levels can substantially impact the quality of life in individuals with chronic illnesses. The results indicate that the majority of the examined samples exhibit aberrant outcomes from the S-Iron test, rather than just asserting that individuals with abnormal readings experience a greater impact on their HRQoL compared to other patients with abnormalities. The results indicate a significant association at $P<0.05$ between the redistribution of PGMS and HRQoL. Consequently, it can be concluded that patients with abnormal PCV tests experience a greater impact on their HRQoL compared to other patients. The results indicate that individuals with platelet disorders exhibited asymptotic similarities in state numbers within the studied sample, as redistributed by the PGMS concerning HRQoL. Consequently, the distribution results cannot be deemed reliable for indicating the impact of the aforementioned disorder. The findings are consistent with the research conducted by Aggarwal *et al*. (2020) [1], which shown that reduced hemoglobin (Hb) levels, suggestive of anemia, considerably deteriorate health-related quality of life (HRQoL) in patients with chronic kidney disease (CKD). The study indicates that patients with reduced Hb levels experienced more difficulties across all HRQoL domains, as seen by aberrant S-Iron and PCV levels, which significantly affect HRQoL in CKD patients. The effect of platelet abnormalities on health-related quality of life (HRQoL) is ambiguous and may need more research.

Conclusion

The studied sample of anemic patients with CKD's in light of their SDCv. had recorded that in the gender male were more than female, Age groups there was an increasing number of elderly patients, in Educational attainment increasing number of low-level education patients, in Occupation most of them were housewives and not working, and most of them were poor Financial Status respectively. Regarding the General information tacked from anemic patients with CKD's it revealed that most of them were overweight, about two-thirds of the studied sampled had been assigned a one to two years of having "Hemodialysis" duration, three times the frequency of hemodialysis per week and most of them take three hours in time of hemodialysis. Regarding the chronic diseases that the samples have the results show that more than one-third of the studied sampled are assigned abnormal outcomes due to the "Diabetic" test and the results show more than three-quarters of the studied sampled are assigned abnormal outcome results due to blood pressure. Regarding the "Laboratory Blood" tests the samples in the results show that most of the studied sampled are assigned abnormal outcome results due to the "Current Ferritin level" test since they accounted for 309(90.0%) and Current RBC level, PCV test, S Iron tests all of them were assigned abnormal outcomes. The anemic patients with CKD's having go down concerning of health QoL, since most studied items regarding of physical domain's items had registered at the high to moderate impact levels regarding to health related QoL. The anemic patients with CKD's having at a low impact with reference to independency domain's items concerning of health related QoL, since most of the studied items regarding of independence domain's items had registered at a low impact level indeed. The anemic patients with CKD's having at moderate to low impacts levels with reference to social domain's items concerning of health related QoL, since two third of the studied items regarding of social domain's had registered at a moderate level, and the rest are registered at a low impact level. The anemic patients with CKD's having go down concerning of health related QoL, since most studied items regarding of psychological domain had registered at the high impact level, rather than one item was reported at each of moderate and low levels. The anemic patients with CKD's having at a low to high border of moderate impact level with reference to adaptation of life domain's items concerning of health related QoL, since two third of the studied items regarding of adaptation of life were at a low impact level, and the rest items were at a border to high moderate level. Regarding patients' Relationships between overall assessment through PGMS and respondent's Laboratory blood test outcomes the results show that significant relationship it could be concluded that abnormal current Hb level, Current Ferritin, Current RBC level, S-Iron, and PCV are more impacted level with their HRQoL compared with the other patients.

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Not available

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Not available

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