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Original Article

Impact of an Educational Program on Quality of Life among Patients Undergoing Hemodialysis in Akre/ Iraqi Kurdistan Region

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ABSTRACT

Background and Objective: Chronic kidney diseases is an international public health issue, and it has a rising extent, occurrence and significant treatment expenditures. The guidance is a crucial step in raising the standard of dialysis care and improving the results of quality of life for end- stage renal disease patients. Therefore, the study's objectives were to establish, implement, and evaluate the impact of the educational program on hemodialysis patients' quality of life at the study site.

Methods: A quasi-experimental research study was conducted at the Urology Center's hemodialysis units at Golan General Hospital in Akre. Data were collected from 30 adult dialysis patients who were undergoing dialysis regularly.

Results: According to the current study, patients' overall mean quality of life scores increased in many aspects of quality of life (physical, psychological and social) with a statistically significant difference shortly after the program's introduction. This increased level was marginally reduced after a month of program implementation.

Conclusion: The overall quality of life of the patients who underwent the intervention saw an improvement in score, all metrics relating to quality of life and health were significantly improved by the educational program.

Key words: End-stage renal disease; Hemodialysis; Educational program; Quality of Life.

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INTRODUCTION

Renal function is thought to permanently deteriorate in end-Stage Renal Disease (ESRD). It is considered a fatal condition for which only hemodialysis (HD) or peritoneal dialysis can guarantee a life[1].End-stage renal disease requires lifetime treatment, which may include renal replacement therapy, education, and dietary and hydration restrictions. As a result, it significantly affects the affected patients' QOL, morbidity, and death [2].Information from the literature indicates that the health of ESRD patients is extremely low when compared to the general population's state of health [3]. This is the rationale behind the increased focus given to health-related quality of life (HRQOL).[4] Some medical treatments for people with renal failure focus more on enhancing QOL than they do on addressing the underlying pathology and consequences. Consequently, it is recognized that HRQOL evaluation is subjective [5].Patients with renal failure must adjust their lifestyles in a number of ways because HD is a chronic condition in order to manage its complications and cope with their sickness [6].The care of patients with ESRD is thought to focus primarily on improving QOL [7].Because of the worrisome increase in the prevalence of renal failure, expensive therapy, and general reduction in patients' QOL, the adoption of efficient treatment is crucial [3].Approaching patients' QOL through an educational program is essential since QOL is seen as a main goal in the therapy of renal failure [8].As it significantly increases a patient's alertness of their ailment, active patient participation in their method of therapy and managing is a crucial element to the enhancement of their QOL generally[9]. This educational program aims to educate ESRD patients with HD to improve their health condition and their overall QOL.

METHODS

A quasi-experimental study design was carried out in Akre Golan General hospital in order to evaluate the impact of an instructive program on HRQOL among HD patients undergoing treatment at HD facilities. The present study was executed in Akre General hospital at Akre district during the period from 2nd January to 20th June 2023. The study included 30 patients, who were on regular dialysis; they were ready to share willingly in the study, and agreed to grant consents. For the purpose of this study, a two-part instrument to evaluate patients' quality of life while receiving hemodialysis was created. The demographic data sheet is concerned with the determination of the demographic characteristics of patients (age, gender, place they grew up, level of education, and duration hours of dialysis).Also, the Construct questionnaire for Q.o.L was created by the WHOQOL-BREF, or World Health Organization Instrument of Quality of Life [10]. questionnaires with 24 items to evaluate the level of hemodialysis patients' quality of life.Physical health, psychological health, social relationships, and environmental domains, these domains are commonly used in research and evaluation to understand various aspects of an individual's well-being.Regarding the (WHOQOL-BREF) part, data was gathered through direct interviews (face-to-face) which had been completed by all samples of the study for 20 - 30 minutes by using the (WHOQOL-BREF) questionnaire. The patients QOL was assessed by the score cutoff point to poor was (1-3), good (< 3-5). An official administrative satisfactory from the Akre Directorate of Education was acquired before the data was collected by the Planning Department to conduct the present study. The data was

collected during the time from 1st May to 5th July 2023 in Akre Teaching hospital. The educational intervention was implemented at Akra Golan General Hospital in Akra City, and focused on four main domains (Physical, Psychological, Social and Environmental). The educational was implemented through four meetings, where patients were divided into five groups, each group included six patients according to the number of dialysis machines available in the hospital. Information was provided in each session related to the patient's quality of life on dialysis, and the evaluation phase focused on knowing the impact of the educational program by using a similar quality of life questionnaire that was used in the initial tests directly and after one month of implementing the program. The primary guideline for gathering data was ethical considerations. Therefore, before beginning the interview, patient must sign the informed permission form that the researcher has produced. Before collection of data, the researcher clarified the study's goals for the patient and its appeal for participation. Statistical Package for the Social Sciences software was used to evaluate the data after it was collected. “SPSS 19” software. To determine the statistical significance of specific variables, the outcomes were given as frequencies, percentages, chi-square tests, and paired t-tests. A result is significant when the p-value is less than or equal to 0.05.

RESULT

Table 1 illustrates of the sociodemographic features of 30 patients undergoing hemodialysis that attends to Golan General Hospital (hemodialysis unit). Concerning patients age about 43.3% of the patients belonged to the age group above 40 years, 53.3% of them were male, and 46.7% female. Also, it shows that 26.6% had no formal education. With regard to the place where he grew up the highest percentage 56.7% was in urban areas. The greatest percentage with regard to the duration of dialysis 56.7%, remains 4 hours on the dialysis machine.

Table 1: Sociodemographic characteristics of (30) patients.

Variables	Characteristics	No.	(%)
Age	20-30 years	8	(26.7)
	31-40 years	9	(30)
	Above 40 years	13	(43.3)
Gender	Male	16	(53.3)
	Female	14	(46.7)
Level of education	No formal education	8	(26.6)
	Illiterate	5	(16.7)
	Primary school	5	(16.7)
	Middle school	6	(20)
	Collage and above	6	(20)
The place where he/ she grew up	Urban	17	(56.7)
	Rural	13	(43.3)
Duration hours of dialysis	3 hours	13	(43.3)
	4 hours	17	(56.7)

Figure 1 shows the total mean scores of patient's Q.o.L in dialysis patients prior to, immediately after and one month the program's implementation there was a statistically significant rise in patients' Q.o.L both immediately and one month after starting the program in comparison to prior to the program's implementation (pretest mean=57.3, posttest 1 mean = 68.3 and posttest2 mean=64.2) and the p-value was shown (pre. p= 0.14, immediately. p= 0.00, and posttest. 2 p=0.02), although the mean scores of patients' Q.o.L. decreased statistically significant after thirty days of executing the program in comparison to right away subsequently carrying out the program.

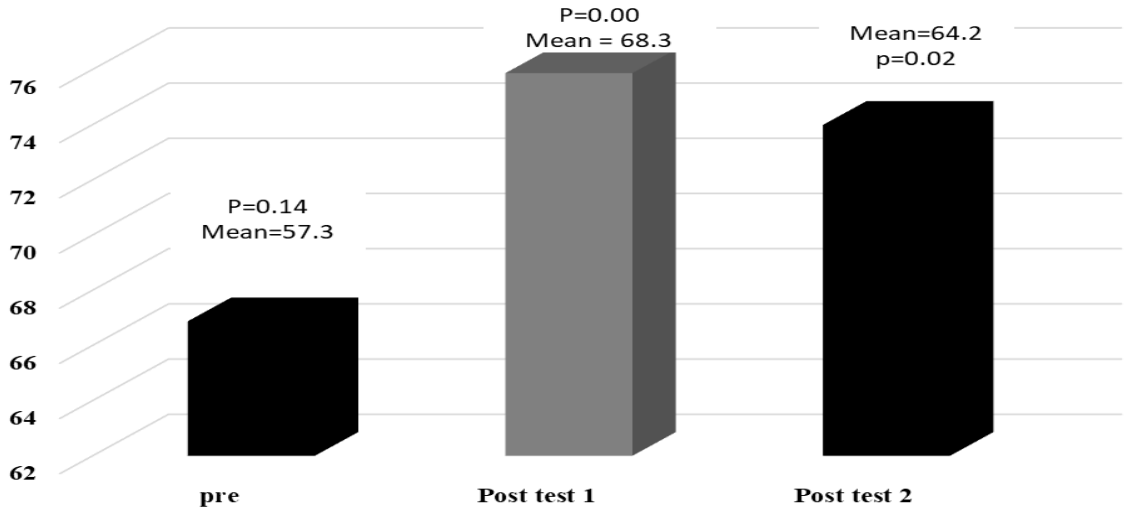

Figure (1) shows total mean scores of patient's Q.o.L in dialysis patients pre, Immediately, after one month the program's implementation.

Table 2 demonstrations mean scores of patient's Q.o.L in dialysis patients prior to, right away and one month after the program's implementation: the mean patient Q.o.L scores increased statistically significantly in all domains except environmental during right away and thirty days after program execution in comparison to before program execution, while the quality of life decreased marginally significantly in all domains thirty days after program execution in comparison to right away after implementing a program.

Table 3 illustrates Q.o.L scores of all patients in dialysis patients before, right away, and one month after the program's implementing. Most of the studied patients 43.3% gained good Q.o.L as soon as the program was implemented compared to 3.3% prior to putting the protocol into action. This high quality of life declined to 20% after thirty days from executing the program.

Table 2: mean scores of patient's Q.o.L in dialysis patients pre, right away, and one month after the program's implementation. (n=30).

Domain	No. of items	Pre- test Mean ± SD	Right away post test Mean ± SD	Post- test after 1 month Mean ± SD	Significance test		
					T1	T2	T3
Physical	7	19.67±5.07	21.70±3.97	21.17±3.73	T= (-3.47) P = 0.002	T=(- 2.36) P= 0.025	T= (2.44) P=0.021
Psychological	7	15.9±3.94	18.47±3.20	18.23±3.35	T= (-4.06) P= >0.001	T=(-3.48) P= 0.002	T= (2.25) P= 0.032
Social	3	6.1±1.21	7.83±2.45	7.43±2.58	T= (-2.85) P= 0.008	T=(-7.95) P= 0.015	T= (2.35) P=0.026
Environmental	8	21.90±5.50	21.97±5.58	22.03±5.70	T=(- 1.44) P=0.16	T= (-1.28) P= 0.21	T= (-1) P = 0.327

(T1) test = Pre-test and immediately post-test paired samples t-test.
(T2) test=Paired Samples T-test between pre-test and thirty days post-test.
(T3) test = Paired Samples T-test between immediately and thirty days post-test.
P = Significance

Table 3: Total patient's Q.o.L scores in dialysis patients pre, right away, and one month after the program's implementation (n=30).

Score	Pre test		immediate-ly post test		After one month post test		Significance test		
							X^2_1	X^2_2	X^2_3
	No	(%)	No	(%)	No	(%)			
Poor <50 %	23	(76.7)	5	(16.7)	13	(43.3)	X^2= 23.86 P = 0.000	X^2=7.8 P = 0.02	X^2=6.18 P = 0.046
Fair 50 -75%	6	(20)	12	(40)	11	(36.7)			
Good >75%	1	(3.3)	13	(43.3)	6	(20)			

(X2 1) = Chi square (significance) between pre-test and immediately post-test.
(X2 2) =Chi square (significance) between pre-test and thirty days post-test.
(X2 3) = Chi square (significance) between immediately and thirty days post-test.
P = Significance

Table 4 illustrates the association between patients Q.o.L scores in dialysis patients and sociodemographic traits: There was no significant different between sociodemographic traits and quality of life except level of education in the pretest, right away and after the one-month posttest.

Table 4: shows relationship between total patient's Q.o.L score in dialysis patients and **sociodemographic** characteristics(N=30)

Variables	pretest n=30 Q.o.L			Right away posttest n= 30 Q.o.L			After 1 month posttest n= 30 Q.o.L			Significance test		
	P	F	G	P	F	G	P	F	G	X^2_1	X^2_2	X^2_3
Age												
20-30 years	6	1	1	1	3	4	6	1	1			
31-40 years	5	4	0	3	3	3	4	3	2	X^2= 7.59 P = 0. 11	X^2= 2.76 P = 0. 599	X^2= 5.74 P = 0.22
Above 40 years	12	1	0	1	6	6	3	7	3			
Gender												
Male	10	5	1	2	6	8	7	6	3	X^2= 3.94 P = 0. 14	X^2= 0.76 P = 0. 68	X^2= 0.35 P = 0.98
Female	13	1	0	3	6	5	6	5	3			
Level of education												
No formal education	6	1	1	0	0	8	1	1	6			
Illiterate	4	1	0	1	2	2	3	2	0			
Primary school	4	1	0	1	3	1	2	3	0	X^2= 3.67 P = 0.88	X^2= 15.68 P = 0.04	X^2= 21.74 P = 0.005
Middle school	5	1	0	2	3	1	3	3	0			
Collage and above	4	2	0	1	4	1	4	2	0			
The place where he/she grew up												
Urban	14	2	1	3	8	6	8	7	2	X2= 2.26 P = 0.32	X2= 1.1 P = 0.58	X2= 1.67 P = 0.43
Rural	9	4	0	2	4	7	5	4	4			
Duration hours of dialysis												
3 Hours	11	1	1	3	3	7	5	6	2	X2= 3.23 P = 0.19	X2= 2.79 P = 0.25	X2= 0.93 P = 0.63
4 Hours	12	5	0	2	9	6	8	5	4			

P; Poor
F; Fair
G; Good
X21= Base line relationship between level patient's Q.o.L score in dialysis patients and sociodemographic characteristics.
X22 = immediately posttest relationship between level patient's Q.o.L score in dialysis patients and socio-demographic characteristics.
X2 3= after 1 month posttest relationship between level patient's Q.o.L score in dialysis patients and socio-demographic characteristics.

DISCUSSION

A major side effect of chronic kidney disease (CKD) progression is end-stage renal disease (ESRD), which has a meaningful global impact on morbidity and death. Patients with HD deal with a variety of issues that have an impact on many areas of their lives[11]Evaluation of HRQOL in patients with chronic diseases like CKD has become a cornerstone of patient care and medical management. Therefore, assessing QOL in hemodialysis patients will assist in evaluating the level of care given and the effectiveness of medical treatment[12].Regarding the effect of the educational program offered to patients, according to the current study, the average rating of patients' quality of life significantly improved both right away and one month after using the program compared to previously. These results are very comparable to the research of Bakarman et al.,[13] the educational program's effects on HD patients' improved QOL were evaluated eight weeks later, according to their statement. After health education, the results revealed a considerable enhancement in each domain. Also, this finding goes with Ghadam et al.,[14] demonstrating that after completing a self-care education program, HD patients' QOL improved in all dimensions of direct communication training groups (p 0.001). Regarding total patients' Q.o.L score, the patients' level was good of Q.o.L soon following implementation of the program, which partially reduced after one month. This issue is agreement with the finding of Abraham et al.,[15],which was demonstrated a striking disparity. During their first and second visits, HD patients in the test group experienced significant improvements in QOL, but the control group experienced little to no change. When in comparison to the control group, the patients in the test group had an advanced total QOL. The aggregate average results for the patient's quality of life increased in a statistically meaningful way directly and thirteen days from executing the program in comparison to before executing the program, whereas statistically significant deterioration was seen in the mean patient Q.o.L scores one month following the execution of a program compared to the program's initial implementation. This outcome was in line with the results of Mohammed et al.[16] which they found in their study that patient counseling might enhance patients' health-related quality of life (QOL) by raising their level of awareness and dispelling any misconceptions they may have regarding their disease's course and how to manage it. The current study revealed that no statistically significant difference existed between total quality of life and their age, gender, the place where they grew up, and duration of hours of dialysis. This finding conflicted with Bayoumi et al.[17] who narrated that age and being a man were poor predictors of life quality. This conclusion also contradicted Seica et al.,[18] claims that female gender and older age were all linked to lower quality of life. The study also revealed that there was a statistically significant difference between their level of education and their overall quality of life. This could be ascribed to an improvement in the patients' quality of life due to effective knowledge transmission from the researcher to them. This result is in disagreement with Alshraifeen et at.,[19] Studies have indicated a beneficial association between education level and quality of life. Also, Sathvik, B. S. et al.,[20] Studies have revealed a favorable correlation between gender, education level, and quality of life. From the researcher's point of view, perhaps the reason for this difference is due to the patients not receiving educational programs in hospitals that would increase

the quality of life in renal failure at its last stage.

CONCLUSION

The results of the present study indicate that enhancing educational initiatives and hemodialysis patients' counseling results in an improvement that is both clinically and statistically meaningful in their QOL. Also, these initiatives will raise social, emotional, physical, and overall HRQOL scores. Furthermore, the results demonstrate the importance of providing routine counseling during the daily lives of dialysis patients in order to improve their quality of life.

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