

The Role of Motivational Interviewing in Improving Health State of Patients Undergoing Hemodialysis

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ABSTRACT

Background: Hemodialysis patients frequently experience social, psychological, and physical issues. Motivational interviewing is one of the most crucial methods for patients' health promotion. Patients undergoing hemodialysis need to more attention and care by educating about diseased condition and motivating them to adhere to treatment to reduce their suffering

Aims of the study: To determine the role of motivational interviewing in improving the health status of patients undergoing hemodialysis.

Methodology: A Single blind, randomized, clinical trial was conducted on patients on hemodialysis who were referred to Hemodialysis Unit of Al-Sadder Hospital, Missan, Iraq. for the period (first of February to 15th May, 2022). The participants were selected through purposive sampling method and were placed in two groups, each group contained (30) patients, one of these groups was intervened by motivational interviewing program and represented as an experimental group, while the other group acted as control group. The experimental group received five sessions of motivational interviewing. The General Health Questionnaire (GHQ) was completed by the participants before and after the intervention.

Results: Results presented that there was a significant effect of the motivational interviewing on patients with hemodialysis of the experimental group at $P = .000$, while no significant difference ($P = .083$) appeared on control group who did not receive the motivational interviewing. motivational interviewing improved all aspects of general health status, based on general health questionnaire as a comparing between the pre and posttest time for the experimental group of all domains at P value less than .05.

Conclusion: The program of motivational interviewing has a positive effect of on the treatment adherence in hemodialysis patients using both objective and subjective parameters as well as plays a significant role in the entire aspects covered by HPL-II including: physical activity, nutrition, spiritual growth, personal relationships, stress management, health responsibility

Keywords: Motivational interviewing, health state, hemodialysis. ESRD, CKD

INTRODUCTION

Chronic kidney disease (CKD) is a serious, fast-growing, third most common non-communicable progressive disease that is world widely distributed and considered as one of the main leading causes of death and hardship in the 21st century. It affects more than 800 million people (more than 13.4%) around the world, more frequent in older people, women, racial minorities, and in people with hypertension and diabetes mellitus^{1,2,3}. The increment in the CKD prevalence reaches 29.3% (26.4-32.6) from 1990 to 2017 with no change in age-standardized prevalence. mortality due to CKD is 41.5% from 1990 until 2017³.

The most dangerous stage of CKD is stage five, named as end-stage renal disease (ESRD). It is worth noting that the incidence of chronic kidney disease in most cases will eventually lead to ESRD in the absence of proper treatment. In this stage, severe and irreversible damage of renal tissue occurs. Hence, 2.5 million patients are undergoing renal replacement therapy, with this number anticipated to rise approximately to 4.5 million by 2030¹². For individuals with CKD, hemodialysis is the first choice of renal replacement therapy⁴. Hemodialysis is used by roughly 30,800 patients in Iran; meanwhile about 98% of Jordanian patients, 84% of European patients, and 92% of American patients with ESRD are being treated by hemodialysis as three times a week for four to six hours each time^{5,6}. However, there are no accurate statistics to be found about the epidemiology, prevalence and stages of CKD, no number of affected patients nor dialysis ones in Iraq, and there is little research that has been studied on a limited number of patients and in limited areas in Iraq; as one study in Anbar, the prevalence of chronic renal failure (CRF) was estimated to be 141 patients/million populations. Although the life-saving effects of sufficient dialysis, the uremic environment continues to degrade physical functions and structures, resulting in exercise intolerance, and impairment in hemodialysis patients. These loads predispose hemodialysis patients to negative behaviors such a lack of desire, a sedentary lifestyle, all of which can lead to frailty, which affects around half of hemodialysis patients⁸. Motivational interviewing is a one-of-a-kind method that can help patients modify their behavior and lifestyle while also improving their treatment adherence. The

methodology is a patient-centered strategy that promotes intrinsic desire and generates behavioral changes in patients by discovering and resolving patients' ambivalence⁹.

Motivational interviewing improved treatment adherence in some areas, such as water and electrolyte management in hemodialysis patients¹⁰ (However, no research on the influence of motivational interviewing on the overall health of hemodialysis patients has been discovered in Iraq. Given the enormous number of patients on hemodialysis and the difficulties associated with the process, enhancing patient health appears to be crucial. As a result, the purpose of this study was to see how motivational interviewing affected the health of hemodialysis patients.

METHODOLOGY

Design of the Study: A Single blind, randomized, clinical trial (pretest-posttest) was used to achieve the goals of the study. The period of this study started from (17th of October, 2021) to (20th July, 2022).

Prepared MI program: The MI program included five sessions for five sequential weeks, and the duration of each session was about 90 minutes. The first session was the introductory session with group discussion and open questions for the participants about dialysis and the importance of adhering to dialysis sessions, as well as identifying the causes and effects of kidney failure. The second session was targeting patients' behavior towards the diagnostic patients' diet. The third session was discussion and open questions for the participants about accepting and adapting to the disease. The fourth session was it included the use of brainstorming and the best way to solve problems and practice activities and actions that affect mental health. The fifth session was the final vision and consisted of improving patient's behavior in resisting sadness, not feeling happiness and destiny and destiny, also summarizing and concluding previous training sessions in a landscape.

Setting of the Study: The study was conducted at Al-Sadder Teaching Hospital, Hemodialysis Unit. This hospital is the only teaching hospital that contains hemodialysis unit in missan governorate

The Sample of the Study: (purposive sampling) was selected to obtain representative and accurate data. From (60) patients with CRF undergoing hemodialysis. The participants were placed in two groups, each group contained (30) patients, one of these groups was intervened by motivational interviewing program acted as an experimental group and the other group acted as control group.

Data collection: Data was collected through the use of the Arabic version questionnaire the data was collected in a unified self-report questionnaire that includes three parts. The first axis includes axis includes 52 items for general health questioner, (1st February 2022 to 1st May 2022).

The Study Instrument: The researchers construct the tool in order to meet the study's objectives, and it is divided into three

sections; which includes. The general health questioner HPLP-II The section regarding motivation contains 52-items each item is measured on health-promoting behavior items that are categorized into six subscales: health responsibility (nine items), spiritual growth (nine items), physical activity (eight items), interpersonal relationships (nine items), nutrition (nine items), and stress management (eight items).

Rating and Scoring: The items of the questionnaire were scored as (One) for never answer, (Two) for some time answer, (Three) for always answer and (Four) for routinely answer .

Statistical data analysis: Data were analyzed through the use of IBM-Statistical Package of Social Sciences (SPSS) version 23 software program which included descriptive statistic.

RESULTS

Table 1: Comparison significant of pre and post test for the study sample (experimental and control groups)

Score	N	M	SD	T	df	P. value	Sig.
Pretest and Post-test (Experimental group)	30	1.166	.379	41.71	29	.000	H.S
		3.166	.38				
Pretest and Post-test (control group)	30	1.6	.49	1.79	29	.083	N.S
		1.7	.53				

N= number, M = mean of score, SD= standard deviation, NS =non-significant at P>0.05, S= significant at P<0.05

Table (1) presents highly significant differences of the responses of the experimental group between pre-test and post-test score at p value (.000). Moreover, no significant difference was determined between pre and post test responses of the control group at p value (.083)

Table 2: The Comparison Significance between the two Periods (Pre and Post-Tests) Related to domains of the questionnaire of both the study and control groups

Main domain	Experimental group				t-test	P value	Sig.	Control group				t-test	P value	Sig.	Experimental and control groups Post-test					
	Pretest		Posttest					Pretest		Posttest					t-test	P value	Sig.	t-test	Pvalue	Sig
	Mean	S.D	Mean	S.D				Mean	S.D	Mean	S.D									
Health Responsibility	1.52	.288	3.13	.230	27.46	.000	H.S	1.84	.393	1.78	.361	2.46	.02	S	15.25	.000	H.S			
Physical Activity	1.13	.188	2.91	.308	35.56	.000	H.S	1.64	.487	1.65	.490	1.07	.351	N.S	11.06	.000	H.S			
Nutrition	1.45	.285	3.12	.207	36.26	.000	H.S	1.84	.338	1.86	.356	1.61	.117	N.S	18.19	.000	H.S			
Spiritual Growth	1.59	.266	3.10	.237	31.69	.000	H.S	1.91	.364	1.92	.370	.152	.88	N.S	16.07	.000	H.S			
Interpersonal Relation	1.82	.328	3.3	.321	24.85	.000	H.S	2.0	.343	2.06	.35	.704	.48	N.S	18.68	.000	H.S			
Stress Management	1.31	.149	3.02	.235	37.64	.000	H.S	1.75	.376	1.73	.393	1.198	.241	N.S	14.50	.000	H.S			

At p < 0.05; HS= Highly Significant; NS= Not Significant, Mean=Arithmetic Mean, S.D. = standard deviation,

This table shows that there were highly significant difference between pre and posttests responses in the study group related to all domains of the study at (P= .000) for all domains, while there was only one significant difference between pre and posttests in the control group related to health responsibility domain at (P= .02).

DISCUSSION

1. Comparison between Pre and Post-test of the Study Sample According to their Responses to General Health Questionnaire (Experimental and Control Groups)

When comparing the study group's responses between the pre-test and post-test scores, the results in table (1) showed highly significant changes at p value (.000). Additionally, the control group's pre- and post-test responses showed no discernible change at p value (.083). This finding is a good indication that the motivational interviewing of this study played a positive role in improving the general health status of patients. Research has showed improvement of health status in patients undergoing hemodialysis. Dashtidehkordi et al. (2018)¹¹ reported that there was a significant difference between the mean of the study group and control group with significant relationship of the health status of patients after applying the motivation interview at P value = .003

2. Comparison of Both groups According to Responses to the Aspects of HPL-II.

Results in table (2) showed that there were highly significant difference between pre and posttests responses in the experimental group related to all domains of the study at (P= .000)

for all domains, while there was only one significant difference between pre and posttests in the control group related to health responsibility domain at (P= .02). This result is another indication about the role of motivational interviewing on improving the health status of experimental group on all aspects i.e. exposure to recent study's MI program made patients better than before, in various aspects such as health responsibility, spiritual growth, physical activity, interpersonal relationships, nutrition and stress management. Dashtidehkordi et al.¹¹ reported that the motivational intervention had a significant effect at all aspects of general health status including; somatic symptoms, anxiety and psychological domain, social domain, based on general health questionnaire as a comparing between the pre and posttest time for the experimental group of all domains of the general health questionnaire at P value less than .05. While, no significant differences were reported for the control group at P value higher than .05.

CONCLUSION

Our program of motivational interviewing has a positive effect of on the treatment adherence in hemodialysis patients using both objective and subjective parameters also, the MI program plays a

significant role in the entire aspects covered by HPL-II including; physical activity, nutrition, spiritual growth, personal relationships, stress management, health responsibility. As well as, another important conclusion obtained from this study is that the Iraqi patients undergoing dialysis have little or no health culture, but when they have adequate education about their condition, combined with a sense of concern and empathy by their health care provider, they will be motivated to adhere to the treatment and health instructions. Thus, the nurses can use motivational interviewing to improve health in patients undergoing hemodialysis. **Recommendation:** More studies should be done about MI and try to produce an ideal program for Iraqi hemodialysis patients. Training health care workers, especially nurses with postgraduate degrees and mental health professionals, on the MI program and giving them accredited certificates recognized by the Ministry of Health that qualifies them to implement this program. Applying programs of MI on common chronic disease in Iraq.

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