



## RESEARCH ARTICLE

### THE RELATIONSHIP BETWEEN PATIENT'S RESPONSES TO THE MOTIVATIONAL INTERVIEWING AND THEIR DEMOGRAPHIC AND MEDICAL CHARACTERISTICS FOR PATIENT UNDERGOING HEMODIALYSIS

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#### ABSTRACT

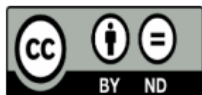
**Aims:** The study aimed to find out the relationship between a response of patients to the motivational interviewing and their demographic and medical characteristic.

**Methods:** A formal case -series design study, clinical trial was conducted on (30) patients undergoing haemodialysis at Haemodialysis Unit of Al-Sadder hospital, Missan, Iraq. The participants were selected through purposive(non-probability) sample. The participant received five sessions of motivational interviewing. The General Health Questionnaire (GHQ) was completed by the participants before and after the intervention. Data was collected through the use of the Arabic version of **HPL-II** questionnaire the data was collected in a unified self-report questionnaire. Data were analysed by using descriptive statistics, including Frequency, Percentage, Mean of score, Standard Deviation.

**Results:** The results presented that there was association between patients' response with demographic characteristics, but no association with medical status.

**Conclusion:** The study concluded that the patients of the study are of low socioeconomic class with ignorance their disease, motivational interviewing are important for adherence to medical therapy.

**Keywords:** Motivation interview, Relationship, Patient, Haemodialysis.



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## INTRODUCTION

More than 800 million people, i.e more than 13% of the world's population, suffer from chronic renal disease. Chronic kidney disease is , a degenerative ailment, more common in older persons, women, colored people, and those with diabetes and high blood pressure. In low- and middle-income nations, chronic kidney disease is a particularly significant burden.<sup>1</sup>

Kidney replacement therapy (RRT), as either dialysis or renal transplantation, is necessary for end-stage renal disease (ESRD), a potentially fatal condition. In many nations around the world, including Turkey, haemodialysis (HD) is the type of dialysis that is most frequently utilized.<sup>2</sup>

Haemodialysis is a procedure used to remove endovascular substances from circulation. During the procedure, the patient's blood passes through a semipermeable membrane while the dialysis fluid passes through the other sides. Dialysis has advantages for patients, but it also has a variety of major and small issues associated to the removal process.<sup>3</sup>

When fluid limitations are not followed, it may result in hypertension (HT), pulmonary edema, congestive heart failure, muscle cramps, nausea, vomiting, anxiety, panic, and hypotension during HD, all of which increase the likelihood of being sent to the hospital. According to a number of studies, the prevalence of fluid restriction nonadherence ranges from 10% to 73 percent.<sup>4</sup>

Nursing intervention, including the application of educational, cognitive, behavioral and dietary methods, has been shown to exert favorable effects on the physical and emotional health of ESRD patients.<sup>5</sup> Motivational interviewing (MI) has been utilized in recent years to enhance treatment adherence and maintain behavioral change in people with chronic physical diseases.<sup>6</sup> One of the most important techniques for patient health enhancing is motivational interviewing. As a result, research into the influence of motivational interviewing on the health of hemodialysis patients is critical, particularly in our region.<sup>4</sup> Moreover, no evidence on the influence of motivational interviewing on hemodialysis patients' general health have been found in Iraq. therefore, Improving patient health appears to be essential given the vast number of patients receiving hemodialysis and the challenges involved with the procedure. The aim of this study was to investigate the impact of motivational interviewing on the health of patients with chronic kidney disease.

## METHODOLOGY

**Design of the Study:** 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 (30th June, 2022).

**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 sample was selected to obtain representative and accurate data. From (73) patients with CRF who were undergoing hemodialysis, Only 30 were able to follow up and to continue with this study. The participants was intervened by motivational interviewing program that was prepared by Mankih and Mirza Hussain 2022<sup>7</sup>, which includes five sessions, each session lasted for 90 minutes. Also, the study instrument and data collection were used as described Mankih & Mirza Hussain 2022<sup>7</sup>.

**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 socio-demographic data, the second axis includes vital signs and laboratory lab, and the third axis includes 52 items for general health questioner, ( 1<sup>st</sup> February 2022 to 1<sup>st</sup> Maye 2022).

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

## RESULTS

Table (1) shows that (53.3%) of the experimental group was within age (40 - 49) years old. Moreover. With regard to the level of education, (90%) of the study's sample had primary school graduate. The majority of participants in study was housewives which accounted for 43.33percentage. The percentage of married people in the experimental group was 43%. Related to residency, 73.3% of the samples were lived in urban area. also, to monthly income, 63.3% had insufficient income. Moreover, represents in table(2) the medical history of the study's samples. It declares that The majority of patients had a history of kidney problem for either 5 years or more, or 2 years (39.9% and 36.7%) respectively for the experimental group. Meanwhile, the diagnosis as a chronic renal failure had been done a year ago in 33.3% of experimental group . In addition, 33.3% of the study population had edema of the extremities as the most common sign with renal disease that they had. The highest percentage of the experimental group 80% and the control group 86.7% were not use psychotherapy drugs. With regard chronic diseases, nearly all patients had diabetes and/ or hypertension account as 96.7%. 90 percent of the study group have history of chronic diseases appear before renal

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failure. In addition, most of the study group (70) percent were injured by corona virus previously.

**Table (3)** presented that there were significant relationships between patients' gender, level of education, and job with their responses at p value = (.012, .031, .031)

respectively. While, there was no significant relationships with other demographic characteristics at (P > .05).As well as shows there was no significant relationship between patients' medical history with their responses at p value more than (.05) with all characteristics of medical history

**Table (1): The Distribution of the Study's Samples According to the Demographical Data**

Variable	Groups	Study group	
		Freq.	%
Age Groups	20-29	2	6.7
	30-39	5	16.7
	40-49	16	53.3
	50 and over	7	23.3
	Total	30	100
Gender	Male	17	56.7
	Female	13	43.3
	Total	30	100
Educational level	Not Read or write	5	16.7
	Primary School Graduate	18	90
	Diploma degree graduate	4	13.3
	Bachelor's degree graduate	3	10
	Post graduate degree	0	0
	Total	30	100
Job	Free work	7	23.3
	Employee	2	6.7
	Retired	3	10
	Housewife	13	43.7
	Do not work	5	16.3
	Total	30	100
Marital Status	Single	5	16.7
	Married	13	43.3
	Divorced	1	3.3
	Widowed	9	30
	Separated	2	6.7
	Total	30	100
Residency	Rural	8	26.7
	Urban	22	73.3

	<b>Total</b>	<b>30</b>	<b>100</b>
<b>Monthly income</b>	<b>Sufficient</b>	<b>0</b>	<b>0</b>
	<b>Barley sufficient</b>	<b>11</b>	<b>36.7</b>
	<b>Not sufficient</b>	<b>19</b>	<b>63.3</b>
	<b>Total</b>	<b>30</b>	<b>100</b>

Freq.= frequency, % = percentage.

Table (2): The Distribution of the Study's Samples According to Medical (Disease) History

Variable	Groups	Study group	
		Freq.	%
Disease History	1 year	3	10
	2 years	11	36.7
	3 years	2	6.7
	4 years	2	6.7
	5 years and more	12	39.9
	Total	30	100
Disease Diagnosis	1 year	10	33.3
	2 years	6	20
	3 years	2	6.7
	4 years	3	10
	5 years and more	9	29.9
	Total	30	100
Signs and symptoms that the patient has	Shortness of breath	6	20
	Oedema of the extremities	10	33.3
	Arthralgia	7	23.3
	Loss of appetite	3	10
	All the above	4	13.3
	Total	30	100
Do you take psychotherapy (drugs)?	Yes	6	20
	No	24	80
	Total	30	100
Do you have chronic diseases (diabetes mellitus/ hypertension)?	Yes	29	96.7
	No	1	3.3
	Total	30	100
When Chronic Diseases Appear?	Before renal failure	27	90
	After renal failure	3	10
	Total	30	100

Freq.= frequency, % = percentage,

Table (3) Correlation between Socio-demographic Variables and Medical History of the Study Group with their Responses to General Health Questionnaire by ANOVA

Socio-demographic variables		Study Sample (N=30)											
		Pre-test					Post-test						
		Sum of squares	df	M.S	F	P value Sig.	Sum of squares	Df	M.S	F	P value Sig.		
Age	Between groups	.188	3	.06	.41	.74	N.S	.286	3	.095	.412	.75	N.S
	Within groups	3.979	26	.153				6.014	26	.231			
	Total	4.167	29					6.3	29				
Gender	Between groups	.456	1	.456	3.44	.074	N.S	1.305	1	1.035	7.312	.012	S
	Within groups	3.71	28	.133				4.995	28	.178			
	Total	4.167	29					6.3	29				
Education Level	Between group	.556	3	.185	1.333	.285	N.S	1.8	3	.6	3.46	.031	S
	Within groups	3.611	26	.139				4.5	26	.173			
	Total	4.167	29					6.30	29				
Job	Between groups	.952	4	.238	1.85	.15	N.S	2.12	4	.53	3.17	.031	S
	Within groups	3.214	25	.129				4.17	25	.167			
	Total	4.167	29					6.3	29				
Marital Status	Between groups	.744	4	.186	1.35	.277	N.S	1.085	4	.271	1.301	.297	N.S
	Within groups	3.42	25	.137				5.215	25	.209			
	Total	4.167	29					6.3	29				
Residency	Between group	.076	1	.076	.519	.477	N.S	.061	1	.061	.275	.604	N.S
	Within groups	4.091	28	.146				6.23	28	.233			
	Total	4.167	29					6.3	29				

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Monthly Income	Between groups	.482	1	.48	3.66	.066	N.S	.759	1	.759	3.83	.060	N.S
	Within groups	3.68	28	.132				5.54	28	.198			
	Total	4.167	29					6.3	29				
Disease History	Between group	1.008	4	.126	.837	.581	N.S	1.164	4	.145	.595	.771	N.S
	Within groups	3.15	25	.15				5.136	25	.245			
	Total	4.167	29					6.3	29				
Disease Diagnosis	Between groups	1.417	8	.177	1.35	.273	N.S	1.4	8	.175	.75	.64	N.S
	Within groups	2.75	21	.131				4.9	21	.233			
	Total	4.167	29					6.3	29				
Signs and symptoms of the patient	Between groups	.543	4	.136	.021	.99	N.S	.021	4	.005	.02	.9	N.S
	Within groups	3.62	25	.145				6.27	25	.251			
	Total	4.167	29					6.3	29				
Do you take psychotherapy drugs?	Between group	.208	1	.208	1.47	.235	N.S	.008	1	.008	.037	.849	N.S
	Within groups	3.958	28	.141				6.29	28	.225			
	Total	4.167	29					6.3	29				
Do you have chronic diseases (diabetes mellitus, hypertension)?	Between groups	.029	1	.029	2.45	.129	N.S	.507	1	.507	2.45	.129	N.S
	Within groups	4.138	28	.148				5.79	28	.207			
	Total	4.167	29					6.3	29				
When chronic diseases appear?	Between groups	.093	1	.093	.636	.432	N.S	.004	1	.004	.016	.89	N.S
	Within groups	4.074	28	.146				6.29	28	.225			
	Total	4.167	29					6.3	29				
Injury by	Between	.40	1	.4	.269	.60	N.	.268	1	.268	1.24	.27	N.

corona virus	groups				8	S					4	S
	Within groups	4.127	28	.147			6.03	28	.215			
	Total	4.167	29				6.3	29				

M.S= mean of score, df= degree of freedom, NS = non-significant at P>0.05, S=significant at P<0.05

**Discussion**

**1. Discussion of the Socio-Demographic Characteristics and Medical History of the Study Sample (Study and Control Groups).**

No study was found on the effect of motivational interviewing on the health in Iraq. Therefore, this study may be the first one on improving the health status by motivational interviewing of dialysis patients, as well as Iraqi patients in general. In order to obtain accurate results, the selection of the sample was based on the patient's cognitive ability. Because, patients with CKD who are on RRT are up to three times more common to develop cognitive impairment independently to age(it can occur in young age) <sup>5</sup>.

Results in table (1) showed more than half of the study group patients (53.3%) were aged 40-49 years, while the percentage of those aged 50 and over was only 23.3%. These results can be attributed to the fact that the majority of patients in both groups suffer from chronic diseases such as high blood pressure and diabetes. Russell et al. (2011)<sup>8</sup> conducted a study on 29 hemodialysis patients aimed to determine the effect of motivational intervention on treatment, diet, and fluid adherence. The sample of the study was selected from hemodialysis clinic in central of the United States of America, Who reported that the mean of starting dialysis treatment was approximately 56 months, and the main cause of kidney disease was diabetes mellitus. Moreover, patients undergoing hemodialysis had 90% chronic disease, respectively, before the development of renal disease. On the other hand, a high percentage (70%) of them was infected with corona virus. The results of this study showed that the prevalence of CKD was higher in males than in females (56.7% and 43.3%), respectively. This can interpret that males in Iraqi population are higher than females in injury by kidney diseases who need hemodialysis. The reason for this variability is not clear, but it is consistent with the local study and the study of around area that produced by Dashtidehkordi et al. (2018)<sup>9</sup> respectively. Dashtidehkordi et al. (2018)<sup>9</sup> also found that among 28 patients in experimental

group, there were 18 males and among 29 patients, while in control group there were 19 males also who accounted the highest proportion of the study sample. But, the finding of this study contradicts with global studies. Ethnicity may play a role in determining the relationship between CKD and gender<sup>10</sup>

**2. Correlation between Socio-demographic Variables and Medical History of the Study Group with their Responses to General Health Questionnaire by ANOVA.**

The results presented that there were significant relationships between patients' gender, education, and job with their responses at p value = (.012, .031, .031) respectively. While, there was no significant relationships with other demographic characteristics at (P > .05). On the other hand, there was no significant relationship between patients' medical history with their responses at p value (0.05) with all characteristics of medical history. These results reflected that patients' responses to motivational interviewing were affected by their gender, as males could represent higher responses with general health questionnaire. On the other hand, the response to MI is significantly higher in unemployed, in spite the bonferroni correction showed insignificant association, but the highest respond to motivational interviewing was appeared in patient with low educational level and either barley sufficient or insufficient income.

It is important to mention that Resull et al., (2011)<sup>8</sup> reported the adherence to therapy in hemodialysis patients depends on many factors, such as, demographics, complexity of therapy with it's side effects, economic status of patient, and the ability to obtain social and environmental supports.

**CONCLUSION**

The conclusion obtained from this study appears that the patients of studied sample are of low socio economic class and they are ignorant about their disease, with MI can enhance their



adherence to medical therapy. the male, unemployed, low educate significant effect on patients' response to the MI program.

### RECOMMENDATION

Based on the findings and s of the current study, the researchers suggest that need to rain health care professionals in the MI program and providing them with validated certificates accepted by the Ministry of Health that qualify them to administer this program, especially postgraduate nurses and mental health professionals.

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