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Illness Perception for Patients with Chronic Renal Failure

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Abstract: **Study objectives:** This study aims to (1) find out the association between patients' age, years of getting the disease, and their illness perception (2) investigate the differences in illness perception between gender groups, level of education groups, monthly income groups, residence groups and satisfaction with health services groups.

Study Design: A descriptive correlational design was used in this study.

Study Sample: The study sample included a convenience sample of (158) patients with chronic kidney failure.

The study instrument consists of two parts; the first one focuses on participants' socio demographic characteristics. The second part deals with participants' illness perception by using the Illness Perception Questionnaire.

Study Results: The study results revealed that the majority of participants held moderate beliefs about the number of symptoms attributed to the illness, the chronicity of the condition, the negative consequences of the illness, and the cyclical nature of the condition. Furthermore, there is a statistically significant difference in the extent of the chronicity of the condition, the negative consequences of the illness, and the cyclical nature of the condition among the level of education groups, and there is a statistically significant difference in illness perception between gender groups.

Conclusions: The lower the level of education, the greater extent of the experienced the chronicity of the condition, the negative consequences of the illness, and the cyclical nature of the condition and the higher the level of the education, the sounder the illness perception. Additionally, furthermore, females have sounder illness perception than males.

Key points: illness perception, Chronic Kidney Failure.

Introduction

When the kidneys are unable to filter the body's metabolic unwanted materials or fulfill their systematic functions; the result is known as 'renal failure'. As a consequence of the diminished weakened renal filtering; the materials that are usually removed in the urine will be gathered in the body liquids, disturbing endocrine and metabolic capacities. In addition, this will lead for liquid, electrolyte, and acid–base imbalances. The latter is a common effect of many dissimilar kidney and urinary system diseases, which are known as renal failure. It is considered a fundamental disease and the mortality from chronic renal failure rises every year (USRDS, 2007).

The patient has to be transferred into the fifth or last phase of CKD when he/she continues to suffer from sufficient kidney harm and need renal replacement treatment on a lasting base. This is also mentioned known as chronic renal failure (CRF) or ESRD. Chronic kidney disease (CKD) is a comprehensive expression that refers to kidney destruction or reduction in the glomerular filtration rate (GFR) for three or more months (Thomas-Hawkins & Zazworsky, 2005).

Hazard elements of CKD involve circulatory disease, diabetes, hypertension, and fatness. Previous studies described that 16.8% of the U.S. adults have CKD (Coresh, 2007). The main reason of CKD is Diabetes. Among 25% and 40% of patients have type 1 diabetes and 5- 40% of those patients have type 2 diabetes have a renal failure (Thomas & Atkins, 2006). For the patients beginning renal replacement treatment; Diabetes is the main source of renal failure. Hypertension is the second major source of CKD, followed by glomerulonephritis and pyelonephritis; polycystic, genetic, or inherited disorders; and renal malignancies (USRDS, 2007).

Illness perception

Normally, the patient creates a systematic style of beliefs about their condition when they are undergoing a diagnosis of a disease. These opinions are considered as main influences of actions related to organizing disease. It is a self-motivated manner, which changes in response to shifts in patients' perceptions and ideas about their illness. Individual's emotive reaction to the disease and their coping actions such as: obedience to treatment influenced by these illness perceptions or intellectual representations (Petrie, 2006).

Components of illness perceptions

Every individual makes mentality models about his illness by means of stable manner. Five major linked components that are founded in previous studies about formatting patients' opinions of their illness:

- Character of their illness
- Causal feelings
- Course of events feelings
- Faiths about control or recovery
- Outcomes. (Petrie, 2006).

Methodology

Design

The research design for this study was a descriptive correlational design. A correlational design can describe an existing relationship between study variables. In this study,

Population

The study population included patients with chronic kidney failure. The target population for this study was drawn from Baghdad City Hospitals and met the inclusion criteria mentioned below.

Sampling

The study applied the convenience sampling method. This type of sampling is inexpensive and feasible, and usually requires less time in comparison with other types of samples (Grove et al., 2013). Convenience sampling facilitates conducting studies on topics that could not be investigated via the application of probability sampling (Grove et al., 2013). Furthermore, it allows researchers to obtain information in unexplored fields. In the convenience sampling approach, participants were included in the study since they happened to be in the right place at the right time (Grove et al., 2013).

Based on seven predictors (age, gender, level of education, monthly income, residency, duration of illness, and satisfaction with the health care services), an anticipated effect size of 0.15, a desired statistical power level of 0.95, and a probability level of 0.05, the minimum required sample size would be 154. The researcher distributed (180) copies of the study questionnaire to the accessible patients. The returned questionnaires were 164; six of them were incomplete. So, they were excluded from the data analyses. The final sample size was 158. Thus, the response rate was 91.1%.

Ethical Considerations

The research proposal was first reviewed and approved by the scientific committee at the department of Psychiatric-Mental Health Nursing, College of Nursing. After receiving Baghdad University's approval for the study, the student researcher discussed study details with administrative persons in the targeted hospitals.

The researcher informed the study participants of the overall goal of the study, how to complete the survey, and ensure their understanding that participation is voluntary and that they can withdraw from the study at any time. The researcher assured participants that the confidentiality of their data will be safeguarded and securely maintained during and following study participation. The researcher further assured study participants that their identities will remain anonymous in the presentation, reporting, and/or any eventual publication of the study. The researcher asked the participants verbal consent to participate in this study.

Instrumentation

The study instrument consists of two parts; the first one focuses on participants' socio demographic characteristics. The second part deals with participants' illness perception.

Demographics

Demographic data were collected using a form that requests the subject's age, gender, level of education, residency, monthly income, duration of illness, and satisfaction with health services.

Illness Perception Questionnaire (Ipq-R)

The IPQ-R (Moss-Morris et al., 2002) was used to measure assesses the following illness perceptions; identity, chronic timeline (Items 1-5 + 18), cyclical timeline (items 29–32), treatment control (items 19–23), personal control (items 12–17), coherence (items 24–28), causes and emotion reaction. In this study, the student researcher did not include the dimensions 'illness identity' and 'causal attributions. This scale is a 5-point Likert type scale that is composed of 38 items (6 items for Timeline acute/chronic, 4 items for Timeline cyclical, 6 items for Consequences, 6 items for Personal control, 5 items for Illness coherence, and 6 items for Emotional representation). These items were measured on a 5-point Likert scale. Responses on this scale range from 1 (Strongly disagree) to 5 (Strongly agree). Items (1, 4, 8, 15, 17, 18, 19, 23, 24, 25, 26, 27, 36) are reversed. Total scores range from 38 to 90. High scores on the timeline and consequences dimensions reflect strongly held beliefs about the chronicity and negative consequences of the condition and the cyclical dimensions reflect strongly held beliefs that the condition is cyclical in nature. High scores on the personal control, treatment control and coherence subscales reflect strong perceptions of illness controllability and a greater personal understanding of the condition (MossMorris et al., 2002)., with a higher score on the timeline, consequences, and cyclical dimensions indicate strongly held beliefs about the number of symptoms attributed to the illness, the chronicity of the condition, the negative consequences of the illness, and the cyclical nature of the condition. On the other hand, higher score on the personal control, treatment control and coherence dimensions, represent positive beliefs about the controllability of the illness and a personal understanding of the condition.

Study Results

Table 1. Participants' sociodemographic characteristics (N = 158)

Variables	Frequency	Percent
Age Mean: 48.29 ± 14.9		
15-27	17	10.8
28-40	35	22.2
41-53	41	25.9
54-66	48	30.4
67-80	17	10.8

Gender		
Male	87	55.1
Female	71	44.9
Level of education		
Unable to read and write	27	17.1
Reads and writes	8	5.1
Elementary school graduate	40	25.3
Middle school graduate	38	24.1
High school graduate	16	10.1
Associate degree	10	6.3
Bachelor's degree	17	10.8
Master's degree	2	1.3
Monthly Income (Iraqi Dinar)		
< 300.000	78	49.4
301.000-600.000	42	26.6
601.000-900.000	22	13.9
901.000-1.200.000	11	7.0
1.201.000-1.500.000	2	1.3
≥ 1.501.000	3	1.9
Residence		
Urban	122	77.2
Suburban	12	7.6
Rural	24	15.2

The age mean is 48.29 ± 14.9; less than a third are of the (54-66) years-old age (*n = 48*; 30.4%), followed by those who are of the (41-53) years-old age (*n = 41*; 25.9%), those who are of the ((28-40) years-old age (*n = 35*; 22.2%), and about tenth for each of the (15-27) and (67-80) years-old (*n = 17*; 10.8%). Concerning gender, more than a half are males (*n = 87*; 55.1%) and less than a half are females (*n = 71*; 44.9%).

Regarding the level of education, around a quarter are Elementary school graduates (*n = 40*; 25.3%), followed by those who are Middle school graduates (*n = 38*; 24.1%), those who are unable to read and write (*n = 27*; 17.1%), those who hold a Bachelor's degree (*n = 17*; 10.8%), those who hold an associate degree (*n* = 10; 6.3%), those who read and write (*n = 8*; 5.1%), and those who hold a Master degree (*n = 2*; 1.3%).

With respect to monthly income, around half reported that their monthly income is less than 300.000 ID (*n = 78*; 49.4%), followed by those who reported that their monthly income ranges between 301.000-600.000 ID (*n = 42*; 26.6%), those whose monthly income ranges between 601.000-900.000 ID (*n = 22*; 13.9%), those whose monthly income ranges between 901.000-1.200.000 ID (*n = 11*; 7.0%), those whose monthly income is 1.501.000 ID or more (*n* = 3; 1.9%), and those whose monthly income ranges between 1.201.000-1.500.000 ID (*n = 2*; 1.3%). Ultimately, most of participants live in urban areas (*n = 122*; 77.2%), followed by those who live in rural areas (*n = 24*; 15.2%), and those who live in suburban areas (*n = 12*; 7.6%).

Table 2. Associations among participants' age and duration of getting the disease and their illness perception

	Age	**Duration of getting the disease**	**Illness Perception**
Age	1	-.100	-.014
Duration of getting the disease	-.100	1	-.028
Illness Perception	-.014	-.028	1

There is no association between participants' age and duration of getting the disease and their illness perception.

Table 3. Association between Participants' age and duration of getting the disease and their illness perception

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Age	.067	.008	.084	7.949	.000
Duration of getting the disease	.005	.004	.013	1.202	.229
Spiritual Coping	-.317	.015	-.217	-20.558	.000

There are significant associations between participants' age and using of spiritual coping and their overall illness perception (*r = .000, r = .000*) respectively.

Table 4. Levels of Illness Perception

	Frequency	**Percent**
Unsound	2	1.3
Somewhat Sound	133	84.2
Sound	23	14.6
Total	158	100.0

The majority of participants have somewhat sound illness perception (*n = 133*; 84.2%), followed by those who have a sound illness perception (*n = 23*; 14.6%), and those who have unsound illness perception (*n = 2*; 1.3%).

Table 5. Difference in illness perception among gender groups

Ranks					**Mann-Whitney U**	**Asymp. Sig.**
	Gender	**N**	**Mean Rank**	**Sum of Ranks**		
Illness Perception	Male	87	67.52	5874.00	2046.000	.000
	Female	71	94.18	6687.00		
	Total	158				

Females have sounder illness perception than males. There is a statistically significant difference in illness perception between gender groups (Mann-Whitney U = 2046.000, p-value = .000).

Decision

Regarding the age, less than a third are of the (54-66) years-old age, followed by those who are of the (41-53) years-old age, those who are of the (28-40) years-old age , and about tenth for each of the (15-27) and (67-80) years-old . This finding is consistent with that of Yodchai and others (2016) in their exploratory, qualitative study on 12 people receiving HD. And Valcanti and others (2012) in their quantitative, descriptive and cross-sectional study on 123 CKD patients under hemodialysis treatment.

Concerning gender, more than a half are males and less than a half are females. This finding is consistent with that of Kim, Y., & Evangelista, S. (2010). In their study on 151 patients of CKD. Females in their sample study was less than Males.

Regarding the level of education, around a quarter are Elementary school graduates, followed by those who are Middle school graduates, those who are unable to read and write, those who hold a Bachelor's degree, those who hold an associate degree, those who read and write, and those who hold a Master degree. This finding is consistent with that of Chaves and others (2010) in their descriptive and observational study on 120 adult patients with chronic renal diseases and Gerogianni and others (2012) in their study on 100 patients undergoing hemodialysis found that unfinished primary education prevailed. Few participants finished secondary or higher education, which confirms subjects' low education level.

With respect to monthly income, around half reported that their monthly income is less than 300.000 ID, followed by those who reported that their monthly income ranges between 301.000-

600.000 ID, those whose monthly income ranges between 601.000-900.000 ID, those whose monthly income ranges between 901.000-1.200.000 ID, those whose monthly income is 1.501.000 ID or more, and those whose monthly income ranges between 1.201.000-1.500.000 ID .Most patients have low monthly income .This finding is consistent with that of Yann and others (2016) in their cross-sectional study on 300 patients of CKD. They found that most of patient in their sample with low monthly income.

Ultimately, most of participants live in urban areas, followed by those who live in rural areas, and those who live in suburban areas. This finding is consistent with that of Tonkin and others (2015) in their qualitative study on 19 patients with CKD.

Regarding illness perception dimensions, participants perceive more on the emotional representations dimension. This finding could reflect the reality that study participants lack the necessary psychological and social support they could receive either from the health care providers or from their family members. . This finding is consistent with that of Davison and other (2013) in their cohort study of 253 prevalent Stage 4 or 5 chronic kidney disease and dialysis patients, and Fowler and Bass (2006) who found that psychosocial adjustment to illness was highly correlated with health-related quality of life. The second dimension that the participants expressed it greater is the illness consequences. This finding could be explained as that participants lack the health education necessary for demonstrating the illness process and prognosis. This finding is consistent with that of Pagels, Agneta (2012) in their cross-sectional design with 535 patients across different stages of renal insufficiency and Fowler and Bass (2006) who found that there was excessive importance of health education for demonstrating the illness process and prognosis.

Concerning the chronicity of the condition, the negative consequences of the illness, and the cyclical nature of the condition, the majority of participants held moderate beliefs about the chronicity of the condition, the negative consequences of the illness, and the cyclical nature of the condition. As mentioned earlier, the majority of participants have somewhat sound illness perception. This finding, also, reflects participants' lack of necessary, adequate information related to chronic kidney failure course. This finding consistent with that of Meuleman and others (2015) in their cohort study among 416 incident pre-dialysis patients they found that patients who perceived that having many negative consequences, their kidney disease cannot be personally controlled, and who perceived that they did not fully understand their kidney disease have a faster decline of kidney function.

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