SELF-CARE ACTIVITIES OF PATIENTS UNDERGOING MAINTENANCE HEMODIALYSIS IN ERBIL GOVERNORATE

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ABSTRACT

Background

Self-Care activities of hemodialysis patients are very important on a daily base, which improve their health and prevent them from complications and illness. This practice was the best practice that used since Orem's nursing theory until now to improve all sides of patients.

Objectives

This study aims to assess the level of Self-Care activities and determines the association factors affecting their activity among hemodialysis patients.

Materials and Methods

This cross-sectional study involved 242 patients that maintain on the hemodialysis treatment in Erbil City from November 2019 to April 2020, by using interview questionnaires. Data were analyzed by SPSS Program version 23 involved descriptive statistics, including frequency, percentage, and chi-square tests.

Results

More than half of the participants (55.4%) were in the older adult age group, male (52.5%), illiterate (53.7%), and live in the urban area (54.5%). The majority of them were married (72.3%) and barely poor income (76%). Highly percentage were no-smokers (94.6%), 88.8% were with chronic diseases and hypertension (72.7%). 50.4% of them time duration of hemodialysis treatment was between 1 year to 4 years. Most of the participants (70.2%) sometimes they were done self-care activities. Dependency of self-care activities was significantly higher associated with all the variables of socioeconomic ($P < 0.001$) except with sex, however, there was no significant association with all the variables of clinical data except with associated disease of Chronic Renal Failure, the existence of heart disease and with a duration of hemodialysis treatment.

Conclusion

In general, hemodialysis patients sometimes can perform self-care activities. Dependency of self-care activities was highly significantly associated with the majority of socioeconomic variables and with the few parts of the clinical variable. Hemodialysis patients need their self-care activities for improving their health and well-being continually.

Keywords: *Self-care; Activities; Hemodialysis; Dependency; Patient.*

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INTRODUCTION

Hemodialysis can be defined as a proficiency to release and filter excess water and waste products from the blood of the patient by using a special machine (artificial kidney) called a dialyzer [1, 2]. A self-care activity is one of the broadest theories, a first concept developed by Orem in 1995, used for assessing the ability of self-care in patients [3]. Regarding Orem's nursing theory, self-care activities focused on the enhancement of a person's or client's self-care performance, decreasing healthcare costs, enhancement the quality of care, and better patient outcomes [4]. For patient's maintenance on Hemodialysis, they should try to do self-care activities to keep away from complications, long-term disabilities and to maintain the best healthy life and well-being [5, 6]. Physical inactivity is associated with the high incidence of hospitalization and risk of mortality among hemodialysis patients [7]. The dialysis process predicts low outcomes and treatments in patients with chronic renal failure when they reduce levels of physical functioning and low physical activity [8]. The main issue of hemodialysis patients is to continue performing self-care and cope with the disease process, because of insufficient self-care behaviors due to the serious complications, as well as by coping improve their health [9]. Self-care activities include all the activities of person's daily, like; mobility, etiquette, communication, social graces, and daily living skills are very important for patients [10]. The patient's maintenance on hemodialysis faced numerous problems and stressful factors like sexual functions, social and family problems, and dependency on many aspects of daily living and self-care activities [11]. Learning and educating patients on hemodialysis to perform regular self-care activities in general such as psychological, emotional, and social statuses are needed for every individual patient to improve his/ her physical function and quality of life [12]. Khaledi-Paveh *et al.,* founded in their study; self-care activities are a significant association with education in hemodialysis patients [13]. As it is seen in many reviews of literature and studies, information about levels of self-care activities and factors affecting their activity or other interventions designed are very important especially among those patients undergoing hemodialysis, because most patients undergoing Hemodialysis are faced with numerous self-care problems and most of them are dependent of their self-care activities. Therefore, the researcher intended to assess the level of self-care activities and find out the association factors from socioeconomic and clinical data that affecting their activity among Hemodialysis patients in Erbil Governorate.

PATIENTS AND METHODS

This cross-sectional study was conducted in both units of Dialysis in Hawler Teaching Hospital from 1st November 2019 to 15th April 2020 through face-to-face interviews with those patients undergoing and maintenance on Hemodialysis.

Among all of the 316 patients, who were attended in both departments of Dialysis in Hawler Teaching Hospital, 242 patients participated in the study, and that is because 11 cases out of this number were children, 23 cases undergoing treatment for less than 3 months while this study was being conducted, whereas, 12 patients of them were doing hemodialysis once per a week. 28 other patients refused to participate in the study. Inclusion criteria: patients with chronic renal failure and doing hemodialysis at least two days per a week and more than 3 months continued on hemodialysis, the age to be above 18, male and female. The patients who refused to participate in the study were excluded.

The Scientific and Ethical Committee of the Nursing College of Hawler Medical University expressed its approval on the study; institutional approval was also obtained from the General Directorate of Health in Erbil for conducting the study in those areas mentioned above. Finally, verbal consent was taken from each patient who was interviewed, as well. The data was collected by asking some questions face to face to the participants and their relatives accompanying the patients. The questionnaire was asked via interview questionnaire for assessing hemodialysis patients; it consisted of three parts based on the research objectives which are; Part 1: Socioeconomic data sheet (age, sex, marital status, educational level, economic status, residential area, current occupation. Divided the age group of the patients as a standard: 18 - 35 Years Old (Young Adult), 36 - 55 Years Old (Middle-Aged Adults), and 56 Years Old and above (Older Adult). Part 2: Clinical Information (BMI $(kg/m)^2$), Smoking pattern, an Associated disease with chronic Renal Failure, Type of chronic disease, Cause of Renal Failure, Duration of hemodialysis treatment, Frequency of Hemodialysis in a week, information about the Self-Care activity, Finally part 3: Self-care activities tool, this tool was related to the subjects of the study on how often they take all the activities of care for themselves during the days. This tool includes 61 items which divided into 5 domains

subscales which are: Physical (14 items), Psychological (13 items), Emotional (10 items), Spiritual (14 items), and Workplace/ Professional (10 items) self-care, The patient's responses regarding those 61 items about how well you think you are doing the self-care activities designed in four options which are: 1- I do this well (e.g., frequently), 2- I do this OK (e.g., occasionally), 3- I rarely do this, and 4- I never do this.

For the first time, the idea of self-care activities was constructed by Orem as an Orem's nursing theory in 1995 [3]. After that developed by many persons and references like; Saakvitne KW, and Pearlman LA, and the Staff of the Traumatic Stress Institute from New York Saakvitne *et al.,* in 1996 [14]. The design is used in this study by Kanter and Sherman in 2016; also they do Validity and Reliability for it [15]. The scoring of questions was measured as; 3 for "I do this well", 2 for "I do this OK", 1 for "I rarely do this", and 0 for "I never do this". For measuring the scale of overall levels of Self-care activity, three levels were created as 'Never', 'Sometimes (Rarely and Occasionally)', and 'Frequently'. The data were analyzed by using the Statistical Package for Social Sciences (SPSS, Version 23), by applying two statistical approaches: Descriptive data analysis (frequency and percentage). To find out the significant association, the usage of A *P* value of ≤ 0.05 was considered statistically significant.

RESULTS

Table 1 focused on the socio-economic data of the 242 patients' maintenance on hemodialysis, more than half percentage of the participants (55.4%) were in the older adult age group (56 years old and above), the mean age (±SD) of the study group was 33.58 ± 9.607 years. Nearly half percentage (52.5%) was male; illiterate or can read/write (60.7%); the majority of them (72.3%) were married. Below half percentage (44.6%) were housewives. Regarding economic status, most of them (76%) barely sufficient income, while, 54.5% living in the urban areas.

Table 2 shows the medical information and smoking pattern. Only 10 patients (4.1%) were smokers and 3 of them (10.6%) were ex-smokers. The majority of the participants (88.8%) had other chronic diseases, 72.7% of them had hypertension, 47.5% with Diabetes Mellitus, 14% had Anemia and 12.8% were suffering from heart diseases. Regarding the cause of the Renal Failure, 94.2% was they know the cause of renal failure, 42.1% cause of renal failure of the patients were Diabetes Mellitus, 30.2% Hypertension, and 9.1% other causes. Regarding the length of Hemodialysis treatment, nearly half the percentage (59.1%) ranged from 1 year to 4 years. The majority of the participants (59.1%) had been undergoing Hemodialysis twice per week. (94.6%) of the patients had information about Self-Care activities and 81.4% of them received their information from the physicians.

Table 3 explores the overall domains in all the items. Maximum levels of the self-care activities were recorded as below:

The physical self-care (34.7%), psychological self-care (43%), and the spiritual self-care (36.8%) were within the level of rarely, while the maximum level of emotional self-care (39.7%) was within the level of occasionally. Finally, the highest percentage (90.9%) of Workplace/ Professional Self-Care activity was observed in the level of never.

Table 4 explains the overall self-care activity of 242 patients with hemodialysis treatment. Most of the participants (70.2%) were within the levels of rarely and occasionally (Sometimes). 21.1% of them weren't doing the self-care activities at all and only 8.7% of them can do all self-care activities.

Table 5 find out the association between socioeconomic characteristics and the overall level of self-care activities of the hemodialysis patients. It was revealed that a highly significant association was founded between the frequency-dependent of self-care activities and the age groups (53.5% for 56 ≥ years old and 34.7% for 36 – 55 years old vs. 11.8% for 18 – 35 years old, $P < 0.001$), educational level (59.4% for illiterate and can read and write, 31.2% for primary school and 4.1% for secondary and 5.3% for high school and higher education, $P < 0.001$), marital status (75.3 % for married and 17.1% for widower and divorced vs.7.6% for single, $P < 0.001$), current occupation (45.3% for housewife, 37.6% for jobless, 11.2% for retired vs. 5.9% for employment, $P < 0.001$) and economic status (77.1% for barely sufficient, 13.5% for Insufficient vs. 9.4% for sufficient, $P < 0.001$). The result of this study also revealed that the frequency of doing self-care activities in those living in urban areas was significantly higher than those living in suburban and rural areas (85.7% for urban, 9.5% for suburban, and 4.8% for rural area, $P = 0.018$). Finally, there wasn't a significant difference between the sex groups and self-care activities ($p = 0.244$).

Table 6 illustrates the relationship between overall levels of self-care activity with some clinical variables. A significant association was detected between never doing self-care activity with the part of associated disease with chronic Renal Failure (94.1% for yes vs. 5.9% for no, $P = 0.019$) and with the heart disease in the type of chronic disease (23.5% for yes, vs. 76.5% for no, $P = 0.013$). A high significant association was also found between the frequency of doing self-care activity with the existence of other causes of Renal Failure (28.6%, $P = 0.005$). Frequently of doing self-care activity was also significantly associated with the duration of hemodialysis treatment (57.1% for less than 1 year, 33.3% for 1-4 years vs. 9.5% for above 4 years, $P < 0.023$). Finally, there wasn't a significant association between the Levels of Self-Care Activities and the other clinical characteristics.

Table 1. Socioeconomic characteristics of Hemodialysis patients.

Variables		* No.= 242	
		F	(%)
Age group (years)	18 – 35 (Young Adult)	26	(10.7)
	36 - 55 (Middle-Aged Adults)	82	(33.9)
	56≥ (Older Adults)	134	(55.4)
	M ± SD	55.15 ± 13.898	
Sex	Male	127	(52.5)
	Female	115	(47.5)
Educational level	Illiterate or Can read/write	147	(60.7)
	Primary school graduate	65	(26.9)
	Secondary school graduate	9	(3.7)
	College and post graduate	21	(8.7)
Marital status	Single	16	(6.6)
	Married	175	(72.3)
	Widow/er	49	(20.2)
	Divorced	2	(0.8)
Current occupation	Employment	23	(9.5)
	Jobless	89	(36.8)
	Retired	22	(9.1)
	House wife	108	(44.6)
Economic Status	In sufficient	32	(13.2)
	Barely sufficient	184	(76)
	Sufficient	26	(10.7)
Residential area	Urban	132	(54.5)
	Sub Urban	84	(34.7)
	Rural	26	(10.7)

*** Number of Participants**

Table 2. Medical information and smoking pattern of participants.

Variables		* No.= 242	
		F	(%)
Smoking pattern	Yes	10	(4.1)
	No	229	(94.6)
	Ex-smoker	3	(1.2)
Associated disease with chronic Renal Failure	Yes	215	(88.8)
	No	27	(11.2)
Type of chronic disease (*No.= 215)	Hypertension	176	(72.7)
	Diabetes Mellitus	115	(47.5)
	Anemia	34	(14)
	Heart Disease	31	(12.8)
	Hepatitis B	5	(2.1)
	Hepatitis C	5	(2.1)
	Others disease	15	(6.2)
Did you Know Cause of your Renal Failure	Yes	228	(94.2)
	No	14	(5.8)
Cause of Renal Failure (*No.= 228)	Diabetes Mellitus	102	(42.1)
	Hypertension	73	(30.2)
	Other cause	23	(9.5)
Duration of hemodialysis treatment (years)	>1	77	(31.8)
	1-4	122	(50.4)
	4>	43	(17.8)
Frequency of Hemodialysis in a week	Two times	151	(62.4)
	Three times	91	(37.6)
Information about Self-Care activity	Yes	229	(94.6)
	No	13	(5.4)
(If yes) Source of information (*No.= 229)	Physician	197	(81.4)
	Nurse	28	(11.6)
	Internet	4	(1.7)

* Number of Participants

Table 3. Overall self-care activities domains.

Self-Care Activities Domains	Level of Self-Care Activities	F	(%)
Physical Self-Care	Never	50	(20.7)
	Rarely	84	(34.7)
	Occasionally	64	(26.4)
	Frequently	44	(18.2)
Psychological Self-Care	Never	67	(27.7)
	Rarely	104	(43)
	Occasionally	52	(21.5)
	Frequently	19	(7.9)
Spiritual Self-Care	Never	12	(5)
	Rarely	89	(36.8)
	Occasionally	83	(34.3)
	Frequently	58	(24)
Emotional Self-Care	Never	23	(9.5)
	Rarely	90	(37.2)
	Occasionally	96	(39.7)
	Frequently	33	(13.6)
Workplace/Professional Self-Care	Never	220	(90.9)
	Rarely	2	(0.8)
	Occasionally	8	(3.3)
	Frequently	12	(5)
Total		242	(100)

Table 4. Overall self-care activities.

Levels of Self-Care Activities	F	(%)
Never	51	(21.1)
Rarely and Occasionally (Sometimes)	170	(70.2)
Frequently	21	(8.7)
Total	242	(100)

Table 5. Association between socio demographic data and overall self-care activities.

Variables of Socioeconomic		Levels of Self-Care Activities						P value
		Never		Sometimes		Frequently		
		F	(%)	F	(%)	F	(%)	
Age groups (years)	18 -35 (Young Adults)	1	(2)	20	(11.8)	5	(23.8)	<0.001
	36 -55 (Middle-Aged Adults)	10	(19.6)	59	(34.7)	13	(61.9)	
	56 ≥ (Older Adults)	40	(78.4)	91	(53.5)	3	(14.3)	
Sex	Male	23	(45.1)	90	(52.9)	14	(66.7)	0.244
	Female	28	(54.9)	80	(47.1)	7	(33.3)	
Educational level	Illiterate/can read and write	41	(80.4)	88	(51.8)	1	(4.8)	<0.001
	Primary school graduate	6	(11.8)	53	(31.2)	6	(28.6)	
	Secondary school graduate	0	(0)	7	(4.1)	2	(9.5)	
	College and post graduate	2	(3.9)	9	(5.3)	10	(47.6)	
Marital Status	Single	1	(2)	13	(7.6)	2	(9.5)	<0.001
	Married	28	(54.9)	128	(75.3)	19	(90.5)	
	Widower and Divorced	22	(43.2)	29	(17.1)	0	(0)	
Current occupation	Employment	0	(0)	10	(5.9)	13	(61.9)	<0.001
	Jobless	21	(41.2)	64	(37.6)	4	(19)	
	Retired	3	(5.9)	19	(11.2)	0	(0)	
	House wife	27	(52.9)	77	(45.3)	4	(19)	
Economic Status	In sufficient	9	(17.6)	23	(13.5)	0	(0)	<0.001
	Barely sufficient	40	(78.4)	131	(77.1)	13	(61.9)	
	Sufficient	2	(3.9)	16	(9.4)	8	(38.1)	
Residential area	Urban	24	(47.1)	90	(52.9)	18	(85.7)	0.018
	Sub Urban	18	(35.3)	64	(37.6)	2	(9.5)	
	Rural	9	(17.6)	16	(9.4)	1	(4.8)	

Table 6. Association between clinical data and overall self-care activities

Variables of clinical data		Levels of Self-Care Activities						
		Never		Sometimes		Frequently		P-value
		F	(%)	F	(%)	F	(%)	
Smoking pattern	Yes	2	(3.9)	8	(4.7)	0	(0)	0.667
	No	49	(96.1)	159	(93.5)	21	(100)	
	Ex-smoker	0	(0)	3	(1.8)	0	(0)	
Associated disease with chronic Renal Failure	Yes	48	(94.1)	152	(89.4)	15	(71.4)	0.019
	No	3	(5.9)	18	(10.6)	6	(28.6)	
Did you have Hypertension	Yes	38	(74.5)	127	(74.7)	11	(52.4)	0.091
	No	13	(25.5)	43	(25.3)	10	(47.6)	
Did you have Diabetes Mellitus	Yes	27	(52.9)	77	(45.3)	11	(52.4)	0.566
	No	24	(47.1)	93	(54.7)	10	(47.6)	
Did you have Anemia	Yes	6	(11.8)	27	(15.9)	1	(4.8)	0.334
	No	45	(88.2)	143	(84.1)	20	(95.2)	
Did you have Hepatitis	Yes	1	(2)	9	(5.3)	0	(0)	0.608
	No	50	(98)	161	(94.7)	21	(100)	
Did you have Heart Disease	Yes	12	(23.5)	19	(11.2)	0	(0)	0.013
	No	39	(76.5)	151	(88.8)	21	(100)	
Did you Know Cause of your Renal Failure	Yes	49	(96.1)	158	(92.9)	21	(100)	0.346
	No	2	(3.9)	12	(7.1)	0	(0)	
Cause of Renal Failure	Diabetes Mellitus	26	(51)	66	(38.8)	10	(47.6)	0.264
	Hypertension	14	(27.5)	56	(32.9)	3	(14.3)	0.191
	Other causes	4	(7.8)	12	(7.1)	6	(28.6)	0.005
Duration of hemodialysis treatment (in years)	< 1	20	(39.2)	45	(26.5)	12	(57.1)	0.023
	1-4	20	(39.2)	95	(55.9)	7	(33.3)	
	> 4	11	(21.6)	30	(17.6)	2	(9.5)	
Frequency of Hemodialysis per a week	Two times	31	(60.8)	105	(61.8)	15	(71.40)	0.665
	Three time	20	(39.2)	65	(38.2)	6	(28.6)	
Information about the Self-Care activity	Yes	46	(90.2)	163	(95.9)	20	(95.2)	0.285
	No	5	(9.8)	7	(4.1)	1	(4.8)	

DISCUSSION

Orem's theory defined self-care activities as a basic part of practicing by individuals maintaining their lives, best health, and well-being [16]. A Clinical Trial Study conducted in Zabol, Iran by Shad *et al.,* between 2017-2018 on 59 hemodialysis patients to determine the effect of Orem's theory model about self-care activity on life satisfaction; it showed that self-care activities are the effective programs for life satisfaction of those patients on hemodialysis treatment, improving and raising self-care capacity, advanced medical compliance and decreasing the dependency [17]. Many other studies, that used by Orem's Self-Care, found out that the self-care activities are the main outline requirements for every individual as therapeutic requirements to maintain a healthy life, affected on decrease patients' hospitalization and affected public health outcomes positively [18, 19, 20].

The result of this study focused on the assessment of self-care activities and found out the main factors that affected these activities among those patients that continued on hemodialysis treatments. The results were revealed, explores the overall self-care activities domains; in general, patients rarely can do physical, psychological, and spiritual self-care activates, as well as occasionally can do emotionally self-care activates, This result could be since more than half of the patients taken for this study were 56 years old and above, and the lowest percentage was a young adult group. Rahimi *et al.,* 2007 explored some facts in their study; there was a significantly increased self-care activity among patients undergoing hemodialysis after getting training of them and implementation of the Orem self-care model and increased with the number of dialysis per week [21]. The result of the present study agreed with the quasi-experimental single-group study in Birjand, Iran that conducted by Poodine Moghadam and Nasiri 2014; the score of emotional dependence and physical dependence of hemodialysis patients were more than the other dependence [22]. The Workplace/ Professional Self-Care, nearly general patients never do this activity, the cause of this result could be most of the patients can't go outside for job and some of them were jobless at the time of this study, or could be due to the majority of the participants they had associated other chronic disease rather than the Renal Failure, for example, majority of them they had hypertension, diabetes mellitus, and heart disease, as well as some of them they had more than two chronic disease or could be a maximum percentage of the study group, was housewife, so working outside and try to getting income for those groups was very difficult. The result of the study was supported by Muehrer *et al.,* 2011 retrospective study in the United States that worked on the Renal Data System database from 1992 through 2003; the rate of unemployment in the working of chronic kidney disease patients was high compared with the general population [23]. Also, it was supported by the study of Hallab and Wish, 2018; which conducted in the whole United States in an-18-year -study period (1996 to 2013); the employment rates at the lowest level in the general years of the study period [24].

The overall self-care activities of the study participants were within the levels of sometimes and only a few rate of them they can do all self-care activities, the cause of this problem may be due to the lifestyle of the patients of our society in general. When they get seek or ill, they depend on other persons to do all activities; the result was supported by a cross-sectional survey study in Addis Ababa, Ethiopia by Gela, Mengistu, in 2018; they revealed that more than half of the hemodialysis patients are in the low levels of self-care [25]. In addition to that, the study also agreed with the descriptive study conducted by Atashpeikar *et al.,* 2012 in Tabriz, Iran; they showed in their study that Hemodialysis patients don't have full self-care ability in general aspect and they need knowledge and education about all self-care activities [26].

Concerning the association of socioeconomic data with the overall self-care activities, table 5 showed that a highly significant association was found between self-care activities and the age groups of participants, this relationship could be due to the lowest percentage group was a young adult that participated in the study. This result was supported by the previous study of Atashpeikar et al; a significant correlation was shown between self-care activities and age [26]. The result was also supported by a cross-sectional study in Palestine by Mousa *et al.,* 2018; they revealed in their study that a significant relationship appeared among the age group, monthly household income, and occupation with the self-efficacy, also the elderly of their participant's was associated with the impaired self-efficacy [27]. Regarding the significant association with the educational level, the study agreed with the single-blinded clinical trial study conducted by Rahimi *et al.,* 2014 in Sanandaj, Iran, they reported in the result of their study that a significant relation occurred between education and self-care [28]. Another fact that appeared was the significant association of self-care

with marital status, occupation, and economic status which was not supported by the cross-sectional study of Khaledi-Paveh *et al.,* 2018 in Kermanshah, Iran; they found no significant relationship between self-care and age, marital status and economic situation [13]. Another result that shown in table 5 was that self-care activities had a significant relationship with living in the urban areas; this result disagreed with the study of Akyol *et al.,* 2007 and the study of Unsar *et al.,* 2007 in both of these studies, a significant difference didn't occur between self-care and living area, age groups, marital status and educational level [20, 29]. Finally, there was no significant difference between the sex groups and self-care activities; it may be because of the proportion between male and female, taking into consideration that nearly equal number of the two genders participated in this study; this found result was supported by the cross-sectional study that conducted by Unsar *et al.,* 2007 in Turkey; gender was not significantly associated with self-care [29]. The result, also, agreed with a previous descriptive study that was conducted by Akyol *et al.,* 2007 in Bornova-ızmir, Turkey in which they didn't find a significant association between self-care with sex group [20].

A significant association appeared between the overall level of self-care activity with having other chronic diseases generally, and heart disease in the type of chronic disease especially; that is might be due to accumulation of chronic disease with Renal Failure patient at the same time. It is so difficult and normally affected on the activity, this result was similar to the Quasi-Experimental research that was conducted by Baraz *et al.,* 2005 in Tehran, Iran; they showed the self-care activities decreased with other diseases and problems among dialysis patients [30]. It also supported by a semi-empirical study in Kermanshah, Iran, by Rostami *et al.,* 2015; their study showed that the majority of their study group below 5 years doing hemodialysis and the highest associated disease was diabetic, also there wasn't a significant difference of self-care activities between of their two groups of their study (Experiment and control groups) [31]. In addition to that, the study agrees with the previous study of Mousa *et al.,* 2018; a significant difference appeared between self-care activities and those patients who had chronic diseases [27]. Finally, a significant difference was detected between the existence of other cause of Renal Failure and with a duration of hemodialysis treatment, the reasons behind that could be affected by the time, when the duration of hemodialysis was long, the coping with it was more as they found in the study of Rayyani *et al.,* 2014; activity of Self-care was associated with several benefits, such as improves coping with or adjustment to all the problems, complication, and illness, also increases dependency daily function and improve their quality of life [32]. The result disagrees with the descriptive study conducted in Beijing, China by Li *et al.,* 2014; it was reported in their results that there weren't significant differences between self-management and duration of hemodialysis, marital status, employment [33]. The result, also, disagrees with the Bağ and Mollaoğlu, 2010 study conducted in Sivas, Turkey; in which they didn't find any significant difference between self-care and having heart disease in chronic diseases and duration of the illness [34].

In conclusion, the study concluded that the level of self-care activities among patients undergoing and maintenance on hemodialysis was inadequate and never able to do the workplace/professional self-care. Dependency on self-care activities was highly significantly associated with general socioeconomic variables and with the associated chronic illness especially heart disease, the duration of hemodialysis treatment was significantly associated. For improving their healthy life, it is important to encourage hemodialysis patients to depend on self-care activity.

Conflict of interest

The author reports no conflict of interest.

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