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Influence of socio-demographic characteristics in the self-care behavior scale of patients with arteriovenous fistula

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Abstract---This study aimed to identify the influence of Socio-demographic Characteristics in the Self-Care Behavior Scale of Patients with Arteriovenous Fistula. Descriptive research was carried out using a scale to assess the self-care habits of dialysis patients with CKD. The study concluded that There is a significant relationship between the age of patients and their self-care behaviors p-value. Also, significant relation founded between educational level and AVF self-care behaviors.

Keywords---socio-demographic, self-care, behavior scale, arteriovenous fistula.

Introduction

Chronic kidney disease is a chronic disorder marked by functional impairments in the kidney caused by a variety of factors. Chronic renal disease is defined as a loss of kidney function with less than 60 mL/min per 1.73 m² estimated glomerular filtration rate (eGFR) (Bikbov, Zainullin, et al. 2020). or Albuminuria, hematuria, or abnormalities discovered via laboratory tests or imaging and present for at least 3 months are indications of kidney impairment (Webster, Nagler et al. 2017). The global burden of chronic kidney disease is considerable and growing: chronic kidney disease affects roughly 10% of people globally, resulting in 1.2 million deaths and 28.0 million years of life lost each year (Xie, Bowe et al. 2018, Bikbov, Zainullin et al. 2020) By 2040, Chronic renal disease is expected to overtake cancer as the world's fifth highest cause of death, with one of the most significant anticipated rises of any major cause of death (Foreman, Marquez et al. 2018).

By connecting the vascular access point to a dialyzer machine, which serves as a pump to circulate and filter blood before returning it to the patient, toxins and waste materials are removed from the bloodstream. Vascular access is required for hemodialysis, which can be achieved by an arteriovenous fistula, graft, or central venous catheter. An arteriovenous fistula connects an artery and a vein in the forearm or upper arm. An arteriovenous fistula increases the pressure in the vein and allows more blood to flow into it, causing it to grow large and robust. The bigger vein allows for simple and consistent access to blood vessels ([National Kidney and Urologic Diseases Information Clearing house] ;(Vaidya and Aeddula 2018).

Vascular access is considered the lifeblood of patients on maintenance HD and is required to achieve high levels of dialysis efficiency. The optimum vascular access should have a number of features, the most essential of which are: easy insertion; enough blood flow for efficient dialysis; high primary patency rates; minimal rates of problems and adverse effects; long-term viability; and cheap economic expenses (Pisoni, Zepel et al. 2015, Almasri, Alsawas et al. 2016). Autologous arteriovenous fistulas (AVFs), prosthetic grafts (AVGs), and central venous catheters are now the three most often utilized vascular accesses for extracorporeal hemodialysis (CVCs). According to main standards, the AVF is the best vascular access for HD

Method

Design of the study

Descriptive research was carried out using a scale to assess the self-care habits of dialysis patients with CKD.

Ethical Consideration

One of the basic principles for protecting the participant's beliefs and dignity before gathering data is ethical considerations. The Ethical Committee of the Nursing College at the University of Baghdad gave its formal permission. The researcher undertakes to keep the study subjects' personal information private and to utilize the data collected in a way that is not harmful to them. The study instrument was developed to ensure that the subjects' right to privacy and data confidentiality was protected. The subjects' involvement was entirely voluntary. Subjects were given the opportunity to read the research questionnaire and study procedures to ensure that they were aware of all pertinent information.

The setting of the study

The study was conducted on (5) teaching hospitals in Baghdad City from the Artificial Kidney Centers divided into three Health Directorate: Medical City Directorate: Baghdad Teaching Hospital Rusafa Health Directorate: Al-Kindy Teaching Hospital. Karkh Health Directorate: Al-Yarmook Teaching Hospital, Imamain Kadhmain Medical City, and Al-Karama Teaching Hospital\Al-Hayat Center for hemodialysis.

The purposive sampling method was used in the current study

Purposive sampling is a non-probability sample that is chosen depending on demographic characteristics and the study's goal. Selective or subjective sampling is another name for it. It is a sampling strategy in which the researcher chooses people of the population to participate in the study based on judging criteria. The selection of this kind was made in accordance with the study's present design. After obtaining the official approvals from all the aforementioned parties including The College of the Nursing, the University of Baghdad; the Rusafa Health Directorate, the Karkh Health Directorate, and the Medical City Directorate. The researcher started by conducting the pilot study. The researcher began collecting samples from February 1st, 2022 to 17th May 2022 from the Medical City Directorate: Baghdad Teaching Hospital Rusafa Health Directorate: Al-Kindy Teaching Hospital Karkh Health Directorate: Al- Yarmook Teaching Hospital, Imamain Kadhmain Medical City, and Al-Karama Teaching Hospital\Al-Hayat Center for Hemodialysis after coordination with officials of the dialysis wards to facilitate the necessary processes in collecting the samples. The researcher wore Personal Protective Equipment (PPE): gloves, surgical mask and over shoes cover. The researcher interviewed patients with hemodialysis and the patients responded first by signing the informed consent form.

Inclusion Criteria

The study sample included adult patients of both gender, native Arabic speakers, who were diagnosed with CKD. Regarding vascular access, patients who are included in this study should have arteriovenous fistula at least one year or more.

Exclusion Criteria

The study sample will exclude:

- Patients who do not have arteriovenous fistula as vascular access for hemodialysis.
- Patients who have arteriovenous fistula for less than one year.
- Patients who do not read and write.
- Patients who refuse to participate in the study.

Result

Table 1
Study Sample Demographic Data

Demographic Data	Rating and Intervals	Frequency	Percent
Age / Years	Less than 20	2	.4
	20 – less than 30	26	5.2
	30 – less than 40	90	18.0
	40 – less than 50	138	27.6
	50 or more	244	48.8
	Total	500	100.0

Gender	Male	232	46.4
	Female	268	53.6
	Total	500	100.0
Education Levels	Primary	318	63.6
	Medium	141	28.2
	Preparatory	32	6.4
	University	9	1.8
	Total	500	100.0
Marital Status	Single	24	4.8
	Married	461	92.2
	Widowed / divorced	9	1.8
	Separate	6	1.2
	Total	500	100.0
Do you know about self-care behaviors?	No	500	100.0
Monthly Income	Not enough	500	100.0

Table (1) shows that almost half 244 (48.8%) of patients age were (+51) years old, more than half 268(53.6%) were female, Majority of them 461 (92.2%) were married and most of them 318 (63.6%) were primary school as an educational level.. All of patients reported that monthly income was not enough 500 (100%).

Table 2
Relationship between the Overall Evaluation of Self-Care Behaviors and the Patients' Demographic Data

Demographic Data	Rating intervals	and	Self-Care Behaviors		Chi-square value *	d.f.	p-value
			Poor	Fair			
Age / years	Less than 20		0	2	9.481	4	.049 S
	20 – less than 30		9	17			
	30 – less than 40		13	77			
	40 – less than 50		16	122			
	50 or more		37	207			
Total			75	425			
Gender	Male		38	194	.646	1	.422 NS
	Female		37	231			
Total			75	425			
Education Levels	Primary		39	279	9.997	3	.019 S
	Medium		25	116			
	Preparatory		7	25			
	University		4	5			
Total			75	425			

The results of chi-square test are supported with Fisher Exact test because there are many cells have an expected value less than 5. Table 2 showed there is a significant relation between age of patients and their self-care behaviors p-value were 0.049. another significant relation founded between the educational level and p-value 0.019.

Discussion

Discusses The Characteristics of Patients

Respondents' demographic data from the questionnaire was seen in Table (1). According to the results of the current research, table (1) revealed that more than half of the respondents were females and less than half were males in the study. This finding is not consistent with that reported by Sousa et al., (2017), a total of 111 patients in a prospective and observational study. Those who discovered that more than half of the participants in their study participants (%66.3) were men, while %33.7 were women. Similarly, it is not consistent with the findings of Sousa et al., (2021), who found that about 65.2 percent of them were male respondents and about 34.8 percent were female. Half of the participants were at the age of (more than 51 years old). This finding is in accordance with that reported by Costa Pessoa et al., (2020), who found that the average age of the participants was 37 years old (age range: 22–70 years old).

Regarding marital status, table (1) shows that most of them 92.2%, were married. This conclusion was consistent with a study reported by Yang et al., (2019), who found that about 83.3 percent of them were married patients. Most of the study sample 63.6% were in primary school at the educational level. The study's findings did not match those of Clemente Neves Sousa et al., (2021) A study evaluating the impact of a structured intervention on the frequency of self-care behaviors in people who have an arteriovenous fistula (AVF) by hemodialysis patients discovered that 48.3 percent of patients had a junior high school education or less. All the patients reported that their monthly income was not enough. This finding is not consistent with that reported by Yang et al., (2019), who discovered that half of the participants in their study participants (%51.9) reported medium income.

Discusses The Relationship Between the Self-Care Behaviors and the Patients' Demographic Data

Hemodialysis patients' self-care Behaviors that increase survival, functional integration, and well-being are referred to as behavior (Sharif Nia et al., 2022). Table (2) shows that there is a significant link between patient age and self-care activities ($p < 0.05$). Another substantial relationship between educational level and ($p < 0.05$) has been discovered. There was no statistically significant link between self-care practices and gender ($p > 0.05$). The results are broadly consistent with that reported by Clemente Neves Sousa et al., (2021) entitled "Investigating the Effect of a Structured Intervention on the Development of Self-Care Behaviors with Arteriovenous Fistula in Hemodialysis Patients" showed that, the (Control Group $n=41$) had a higher average self-care than the (Intervention Group $n=48$) ($p = 0.0002$) (89.6 percent and 77.5 percent, respectively). The average self-care of Intervention Group patients is higher on the overall scale and both subscales after the intervention. These findings might imply that patients had similar levels of self-care practices before the intervention, regardless of demographic or clinical characteristics (save for the treatment of signs and symptoms), showing that baseline variables had no effect on self-care. In terms of patient demographic data, the findings of this study do not match those of the current study.

These findings are consistent with those of Taylor et al., (2016), who investigated females have a higher frequency of self-care behaviors in the prevention of complications ($p=0.006$) than males, according to the effects of a knowledge-attitude-behavior health education model on the acquisition of disease-related knowledge and self-management behavior by patients undergoing maintenance hemodialysis. Participants with a college or higher degree were more likely to practice self-care than those with a middle school or lower education, according to another study by Choi et al., (2019), which agrees with the current study. Self-care behavior differed substantially by education ($F = 5.06$, $p = 0.008$), and self-care behavior was greater among individuals with a college or higher education than among those with a medium or lower education (Kim & Park, 2021) Because only 17% of participants said they received at least two self-care behavior education sessions per year, additional self-care behavior education for outpatients of the artificial kidney unit should be offered. The results are broadly not inconsistent with the present study.

An integrative review previous study reported by Raimondo et al., (2012) suggested, that the client's mindset can have an impact on the AVF care they receive. In this study, respondents' deficient practice was most likely due to a lack of information, despite the fact that the majority of them had a good attitude toward self-care with the AVF. Men, unlike other living beings, have the ability to reflect on themselves and generate or engage in their own care, therefore a lack of information will lead to a lack of self-care. Individuals should, as a result, be self-sufficient and accountable for their own healthcare needs.

Conclusion

There is a significant relationship between the age of patients and their self-care behaviors p -value. Also, significant relation founded between educational level and AVF self-care behaviors.

Recommendations

Updating and supporting nurses' knowledge and practices by promoting and stimulating them to contribute in private training programs on self-care behaviors of AVF, to improve their patient-education performance, which can positively affect patients' behaviors. Hemodialysis units must have educational posters that contribute to raising the patient's awareness of self-care behaviors of AVF

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