Knowledge and Attitude toward Chronic Kidney Disease among Pre-Dialysis Patients in Indonesia

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Abstract

Background: Chronic kidney disease is prevalent and associated with many morbidity and mortality at all stages. Lack of knowledge toward CKD management and treatment would affect disease progression.
Objectives: The study aimed to explore the knowledge and attitude toward chronic kidney disease among patients undergoing pre-dialysis.
Methods: A cross-sectional design was conducted at three referral hospitals in West Java from June to December 2016. The inclusion criteria were patients diagnosed with CKD undergoing pre-dialysis phase II and IV, conscious, without severe complication, and able to speak without cognitive and mentally disordered. Consecutive sampling was applied to select participants. A total of 70 patients with CKD pre-dialysis were recruited.
Results: The majority of them were male (61.4). The mean age was 62.65 (SD=12.65), the highest educated were diploma III/university (28.6%). The average of knowledge of CKD, with the mean score, was 10.55 (SD=3.45). The majority of participants had a correct answer related to etiology (88.6%) and symptoms (67.1%). On average, patients undergoing pre-dialysis reported favorable score of attitude (Mean=46.80, SD=3.49). The supportive attitude was higher in the hope of healing/recovery and diet and drinking pattern.
Conclusions: Study findings indicated the lack of knowledge of CKD but showed favorable attitude on the hope for healing/recovery and diet and drinking pattern. Intervention to improve their knowledge of CKD is essential.

Keywords: chronic kidney disease, knowledge, attitude, pre-dialysis

Introduction

Chronic kidney disease continued to increase and caused high morbidity and mortality at all stages (Go, 2004, Kafkia, Vehvilainen-Julkunen and Sapountzi-Krepia 2018). According to the data from Indonesian Nephrology Association in 2011, it estimated about 25 million Indonesian people had an impairment of kidney function. The Indonesian Hospital Association (PERSI) reported that 500 per one million people diagnosed with chronic kidney disease and 60% of them were adults and older age. Furthermore, according to the Indonesian National Health Insurance data, around 70.000 patients with kidney disease required dialysis, only 12.804 of them already perform hemodialysis, and over 30.000 patients are recommended to do pre-dialysis. Chronic Kidney Disease (CKD) defined as kidney damage over three months with glomerulus filtration rate (GFR) less than 60 ml/minute/1.73 m2 that consists of five stages (Black and Hawk, 2005; Wein, et al, 2007; Thomas, 2008). Patients with CKD recommend to perform hemodialysis if they are in stage 5 and pre-dialysis for those in stage 3 or 4 (KDOQI Guidelines, 2000; Wein, et al, 2007; Daugirdas, Blake, and Ing, 2007; Ignatavicius, 2010). Patients with CKD undergoing pre-dialysis require good self-management to control low protein intake and maintain their kidney function (Kresnawan & Maskun, 2012; Hase, 2012; Branson, 2007). They are required to have an ability to adapt change to the situation or negative stimulus to maintain the function of the kidney. A study conducted by Fougue (2007) found that well-controlled protein intake can reduce the mortality rate and delayed initiation of dialysis up to 40%. Lack of knowledge and inability of the patient toward CKD management and treatment would affect disease progression.

Often complications occurred due to failure to maintain proper self-management. To prevent the worsening of chronic kidney disease stage, patients undergoing pre-dialysis need to have sufficient knowledge about the disease and treatment management. Patients with CKD perceive a lack of basic knowledge about CKD diagnosis and are confused about specific self-care management required to maintain their health condition (Mason, 2007, Kafkia, Vehvilainen-Julkunen and Sapountzi-Krepia 2018). Data suggest that health care providers often give patients general advice (e.g. "sodium restriction, drinking pattern"), but patients instead want practical and specific information to support their self-care efforts (Seligman, 2007). According to our pilot study conducted in one of a tertiary referral hospital in Bandung, 18 patients diagnosed from chronic kidney disease reported reduced the consumption of protein already, while eight people (44%) had decreased urine output, 15 people (83%) did not regularly follow drinking pattern. Therefore, our study aimed to explore knowledge and attitude toward chronic kidney disease among patients undergoing pre-dialysis.

Methods

Study design and sample: This study was conducted using a cross-sectional at three referral hospitals in West Java from June to December 2016. The inclusion criteria were patients diagnosed with CKD undergoing pre-dialysis phase II and IV, conscious, without severe complication, and able to speak without cognitive and mentally disordered. Consecutive sampling was applied to select participants. A total of 70 patients with CKD pre-dialysis were recruited.

Measurement: The demographic information was collected on enrolment: this information included age, gender, level of education, employment, and health coverage. The primary outcome of this study was knowledge and attitude toward chronic kidney disease in patients undergoing pre-dialysis.

Knowledge: This questionnaire is used to measure the level of knowledge of respondents. The questionnaire consisted of 20 questions, with four answer options. Respondents were asked to choose one of the most appropriate answers according to the knowledge of the respondents. Questions about chronic kidney disease contained in the questionnaire include understanding, causes, symptoms, complications,

treatment, how to inhibit the development of disease, diet and drinking patterns that must be regulated. Total score for knowledge is 0-20. Knowledge of respondents is useful if the result is 76-100%, while 56-75% and less if <56%. Item correlation was range from 0.396 to 0.634, and the Cronbach alpha in the present study was ranged from 0.824.

Attitude: The questionnaire was used to measure respondents' attitudes towards the treatment of chronic kidney disease pre-dialysis, consisting of sixteen question items with four answer choices for each question. Respondents were asked to choose one of the answers that best describe what is felt or experienced. The response to the question item is favorably given a score ranging from 1 to a very strongly offensive option until a score of 4 to agree strongly. As for the question that is unfavorable given the different score. Total score for attitudes in the range 16-64. Scores greater than or equal to 47 indicate that respondents have a supportive attitude. Item correlation was range from 0.371 to 0.680, and the Cronbach alpha in the present study was ranged from 0.810.

Procedure: This research has approved by the Ethics Committee of the faculty of nursing, Universitas Indonesia (0342/UN2.F12.D/HKP.02.04/2015). After obtaining the IRB and research permission from study hospitals, the researcher visited the head nurse and gave information how the data collection would be performed. The head nurse provided a list of potential participant. The researcher approached the participants in the outpatient internal department waiting area. The researcher explained the content of the questionnaires clearly to avoid response bias. After written informed consent, participants asked to complete the demographic data first, then knowledge and attitude questionnaire. These instruments take about 15 to 20 minutes to complete. After completing all questionnaires, the participant should return the questionnaire, and the researchers rechecked the completeness of the surveys.

Data Analysis: Data analyses were performed using Statistical Package for the Social Sciences (SPSS) Version 22.0 for Windows. The sociodemographic data including gender, employment, and health insurance were managed as categorical data. Participants' age, eGFR, creatine, and protein intake were managed as continuous data. Data were analysed using descriptive statistic and presented as mean and

standard deviation for the continuous data and percentage for categorical data.

Results

Demographic and clinical information

Table 1 shows the distribution of participants and clinical information. The majority of them were male (61.4). The mean age was 62.65 (SD=12.65), the highest educated were diploma III/university (28.6%). The majority of them were retired (38.6%) with over 90% covered by the national health insurance. The mean of eGFR ranged from 25.95 (SD=12.9), the average for protein intake was 35.4 (SD=12.5), and creatinine was 2.85 (SD=1.20). The majority of patients in this study sample had lack of knowledge of CKD, with the mean score was 10.55 (SD=3.45). The majority of participants had a correct answer related to etiology (88.6%) and symptoms (67.1%). However, patients with CKD had lower corrected answer related complications and the treatment, 35.7%, and 32.8%, respectively. Table 3 showed the attitude toward chronic kidney disease. On average, patients undergoing pre-dialysis reported favorable score of attitude (Mean=46.80, SD=3.49). Supportive attitude was higher in the hope of healing/recovery and diet and drinking pattern, 62% and 50%, respectively and the lowest was treatment and management (40%).

Table 1. Demographic and clinical information of patients with chronic kidney disease undergoing pre-dialysis (n=70)

Variables	n	%
Gender		
Male	43	61.4
Female	27	38.6
Education		
Not finished	3	4.3
Elementary school	16	22.7
Junior high school	13	18.6
Senior high school	18	27.7
Diploma III/Bachelor	20	28.6
Employment		
Government officer	3	2.3
Business	6	8.6
Private officer	7	10.0
Retired	27	38.6
Unemployment	13	18.6
Housework	14	20.0
Health coverage		
National health insurance	63	90.0
Company coverage	1	1.4
Private insurance	4	5.7
Personal payment	2	2.9
	Mean	SD
Age (years)	62.65	12.65
eGFR	25.95	12.90
Protein intake	35.4	12.50
Creatinine	2.85	1.20

Knowledge of chronic kidney disease

Table 2. Knowledge toward chronic kidney disease among patients undergoing pre-dialysis (n=70)

Knowledge	n	%
Knowledge score (Mean ± SD)	10.55 ± 3.45	
The correct answer for each item of knowledge		
Definition	34	48.6
Etiology	62	88.6
Symptoms	47	67.1
Complication	25	35.7
Protein restriction	29	41.4
Drinking pattern	39	55.7
Salt consumption	29	41.4
Phosphate and potassium intake	28	40.0
Symptoms management	35	50.0
Treatment	23	32.8

Attitude toward chronic kidney disease

Table 3. Attitude toward chronic kidney disease among patients undergoing pre-dialysis (n=70)

Attitude	n	%
Attitude score (Mean ± SD)	46.80± 3.49	
Supportive attitude for each item		
Hope for healing/recover	62	88.6
Diet and drinking pattern	35	50.0
Treatment and management	28	40.0
Behavior changes	39	55.7

Discussion

The patient's ability to slow the acceleration of CKD disease progression is limited by the lack of patients' knowledge regarding their disease, other comorbidities, psychosocial influences, and the patient's ability to interact and communicate effectively with health care providers. The support of a multidisciplinary team combined with comprehensive, accessible, and practical educational materials can improve the patient's ability, and motivate to always adhere to appropriate therapeutic and lifestyle interventions to reduce the disease progression (Lopez-Vargas, et al, 2014). The management of patients with chronic kidney disease is complicated because it involves the management of the CKD itself, as well as the management of others comorbidities, such as hypertension and diabetes. In this case, there needs to be effective co-operation between patients and health care providers to optimize treatment outcomes (Bodenheimer, Lorig, Holman, Grumbach, 2002). Patients with CKD need to be informed of the benefits they will gain if they maintain a healthy lifestyle and adhere to medications to reduce proteinuria, hypertension, and diabetes, which is a risk factor for CKD. However, there have been studies reported that 35% of patients only had limited information or no information at all about CKD and its prevention to late stage (Finkelstein., Story., Firanck. 2008). Patients diagnosed with early-stage CKD reported depression, anxiety, minimal coping skills, reduced participation in care plans, and poor quality of life (Devins et al., 2003; Tong et al., 2009). Effective patient education can decrease symptoms, improve quality of life, coping mechanisms (Devins, Mendelssohn, Yitzchak 2003 and Fisher, Thorpe, DeVilles. DeVilles, 2007), patient's ability to survive, and reduce the frequency of hospitalization and increased

severity of CKD (Chen., Tsai., Sun., Wu., Lee. 2011 and Devins Mendelssohn., Yitzchak. 2005). Establishing an effective strategy in preventing the severity of CKD requires a deep understanding of the patient's views, needs, and concerns, so that knowledge interventions can respond to patient information needs and improve their ability to change lifestyles. Living with chronic diseases such as CKD requires the ability to recognize the emotional responses arising from life with incurable diseases, as well as the ability to accept these conditions in everyday life. To be able to realize that ability, the patient needs to go through a process of identifying and expressing emotions, including grieving over her condition of health loss, discovering her identity, and finding the meaning of her illness experience (Novak, et al, 2013). The challenge facing patients with CKD is how to empower themselves to proactively manage their lives to be in harmony with the condition of the disease so that risk factors can muffle and the disease does not get worse. In this case, the patient is guided to be able to understand the characteristics of their condition and the medical symptoms experienced, and treatment done by discussing with the relevant health worker. To be able to apply self-management, the patient must develop five skills, namely problem-solving skills, decision-making, empowerment of resources, good relationships with health personnel, and carry out what is already planned (Lorig & Holman, 2003). To realize self-management in CKD patients, health workers need to incorporate the values, beliefs, interests, and concerns of patients in designing patient care. It is undoubtedly a new breakthrough that differs from the conventional treatment model where care provided based solely on existing templates, resulting in less than optimal results. This patient-centered treatment can initiate by asking the patient to explain needs to be addressed, as well as observing the patient's lifestyle habits (Walker, et al, 2013).

Conclusion

We found the majority of patients on overall had lack of knowledge of CKD but had higher correctly answer related to etiology and symptoms. Attitude toward chronic kidney disease reported favorable and showed supportive attitude on the hope for healing/recovery and diet and drinking pattern. Intervention to improve their knowledge of CKD is essential. Future studies assess factors affecting their knowledge and attitude with larger sample size is necessary.

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