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Description of Patient Knowledge and Compliance, Implementation and Completeness of Discharge Planning Documentation in the Hemodialysis Room of the Hospital

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ABSTRACT

Background: The rate of non-compliance among hemodialysis patients, particularly with regard to fluid intake and dietary restrictions, remains very high, ranging from 30–81.4%. This study aimed to assess patient knowledge and compliance, while also reviewing the implementation and completeness of discharge planning documentation in hospital hemodialysis wards. Methods: This study used a descriptive correlational design with a cross-sectional approach, conducted from July 15–30, 2021, at Haji Hospital Surabaya and Muhammadiyah Hospital Lamongan. The participant criteria were patients with chronic kidney disease undergoing hemodialysis for more than three months, aged 21 years and over, able to read and write, familiar with internet usage, and able to operate Android-based applications. The total sample size was 105 individuals selected using simple random sampling. Patient compliance was evaluated using the End-Stage Renal Disease Adherence Questionnaire (ESRD-AQ), knowledge was assessed using the Kidney Disease Questionnaire, and the completeness of nurses' discharge planning was measured using the IDEAL Discharge Planning Checklist. Data analysis was performed using descriptive statistics using frequency distributions. Results: Respondents were mostly male (49.1%), aged 46–55 years (49.1%), married (87.3%), and still employed (59.9%). Patients' knowledge of fluid restriction was moderate to good, while adherence to fluid restriction was only adequate. The highest level of non-adherence was found in the fluid and diet aspects. The results of the discharge planning assessment showed that implementation and completeness of documentation were still adequate. Conclusion: The level of knowledge and adherence of patients with chronic kidney disease are closely related to the quality of discharge planning implementation carried out by nurses.

INTRODUCTION

The number of people with chronic kidney disease continues to increase worldwide and poses a serious threat to global health [1]. In Indonesia, in 2016, nearly 98% of patients with kidney failure underwent hemodialysis therapy to maintain their health [2]. This therapy requires a high level of patient awareness and awareness, as it involves significant lifestyle changes, such as regular visits to the hemodialysis unit 2–3 times a week, adherence to prescribed medications, regulating daily fluid intake, and adjusting diet [3, 4]. Continuous treatment can help improve a patient's condition, but because kidney failure is a chronic disease that requires long-term care, this therapy often places a significant burden on patients [5]. Furthermore, families, who act as caregivers at home and in the hospital, also face significant stress, which in some cases leads to unsuccessful therapy and a worsened prognosis [6].

Globally, chronic kidney disease ranked 27th as a cause of death in 1990 and rose to 18th in 2010. Data from the United States Renal Data System (USRDS) in 2013 showed that there were more than 661,000 people with end-stage renal failure [7, 8]. Meanwhile, the results of the 2013 Basic Health Research in Indonesia recorded the prevalence of kidney disease at around 0.2%, equivalent to 2 people per 1,000 population, with an estimated number of cases reaching nearly 500,000 [9, 10]. Research also shows a relatively high level of non-compliance in hemodialysis patients, particularly regarding fluid intake and dietary restrictions, with figures ranging from 30% to 81.4% [11]. Poor self-management and non-compliance with therapy regimens, including diet, fluid intake, medication adherence, and hemodialysis schedules, can lead to serious consequences such as fluid overload, bone disorders, edema, severe cardiovascular disease, cognitive decline, increased risk of hospitalization, and even death [12, 13]. Therefore, patient education and the implementation of self-monitoring strategies have proven effective in improving patient compliance with dietary and fluid restrictions. Patient knowledge about the disease they are suffering from and hemodialysis therapy is very important, so that health workers and families who care for patients must not ignore this aspect and need to carry out continuous monitoring [14].

In addition, patient compliance is the main key to success in undergoing hemodialysis therapy for patients, even though patients follow therapy regularly but it is not accompanied by compliance with dietary restrictions, fluid restrictions, body condition control, blood pressure control, the patient's condition will still fall into a bad state. and lead to higher mortality [15, 16]. The success of therapy for patients with chronic kidney disease does not only rely on the patient and family, but health workers, namely nurses, also play a very important role. The discharge planning process which is the preparation of the patient to go home must be considered properly so that the patient and family get sufficient knowledge during treatment at home [17]. Discharge planning should not only be carried out in a modest manner, but must pay attention to completeness, accuracy and efficiency to be accepted by the patient. Therefore, conducting regular evaluations of discharge planning practices and the accuracy of data entry is essential. This study aimed to assess patients' knowledge and adherence, as well as the implementation and completeness of discharge planning documentation in the hospital's hemodialysis unit.

METHODS

Study Design

A descriptive correlational design with a cross-sectional approach was applied to assess patients' knowledge and compliance, as well as the implementation and completeness of discharge planning documentation in hospital hemodialysis units. The research was conducted during 15 – 30 July 2021 at Haji Hospital Surabaya and Muhammadiyah Hospital Lamongan.

Participants Recruitment

The study population included all patients with chronic kidney disease undergoing hemodialysis at Haji Hospital Surabaya and Muhammadiyah Hospital Lamongan. The respondents were patients with chronic kidney disease who had been receiving hemodialysis for more than three months, were over 21 years old, able to read and write, and had the ability to use the internet and operate Android applications. Respondents in this study amounted to 105 respondents who were taken based on simple random sampling. Prospective respondents who meet the criteria are given a complete explanation of the research first, then prospective respondents are given informed consent and respondents who are willing will give their signature without coercion from the researcher. After the respondent agrees, the researcher will distribute a questionnaire to be filled out by the respondent.

Data Collection

Descriptive research was conducted to evaluate the knowledge and compliance of the respondents, as well as the implementation and completeness of the discharge planning carried out by nurses. so that data collection uses questionnaires distributed to patients. Demographic data of respondents was measured using a sociodemographic questionnaire consisting of age, gender, occupation, educational status and duration of hemodialysis therapy. Patient

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adherence was assessed using the End-Stage Renal Disease Adherence Questionnaire (ESRD-AQ) [8], patient knowledge was measured using The Kidney Disease Questionnaire [12], while the completeness of nurse discharge planning was measured using the IDEAL Discharge Planning Checklist [10].

The End-Stage Renal Disease Adherence Questionnaire (ESRD-AQ) contains 28 items that assess patient adherence in several areas, including fluid restriction, dietary regulation, medication intake, and participation in hemodialysis sessions. For positive statements, a "yes" response is scored as 1 and "no" as 0, while the scoring is reversed for negative statements. The total score is then categorized: a result of 75% or below of the maximum score indicates non-adherence, whereas a score greater than 75% reflects adherence to treatment. Meanwhile, the Kidney Disease Questionnaire (KDQ) is available in both a 26-item form and two parallel versions of 13 items each. This tool effectively distinguishes patients who possess adequate knowledge about kidney disease and its treatment from those with limited understanding. It is also sensitive to detecting knowledge gains from educational interventions and from experiences related to beginning dialysis therapy. To assess the discharge planning process, the IDEAL Discharge Planning Checklist is utilized. This checklist evaluates the thoroughness of nursing documentation across several components, including medication, home environment, treatment, health education, outpatient referrals, and diet. Both the ESRD-AQ and the KDQ, as well as the IDEAL checklist, have undergone validity and reliability testing, and all have been confirmed to be appropriate and dependable for use.

Ethical Clearance

This study was approved by the Nursing Research Ethics Committee (KEPK), Faculty of Nursing, Universitas Airlangga, under ethical certificate number 2267-KEPK. The approval process ensured that the research adhered to key ethical principles, including respect for autonomy through informed consent, beneficence by prioritizing the well-being of participants, non-maleficence by minimizing potential risks, and justice by ensuring fairness in participant selection and treatment.

Data Analysis

Data analysis was carried out by descriptive analysis, namely grouping the data according to the frequency distribution.

RESULTS

Characteristics Demographic and Patient's Knowledge

The demographic profile of respondents from both hospitals revealed relatively similar patterns. At Muhammadiyah Hospital Lamongan, most participants were men (49.1%) and predominantly aged between 46 and 55 years (49.1%). The majority were married (87.3%) and more than half (59.9%) were still employed. In terms of education, secondary-level schooling was the most common (54.5%). Hypertension emerged as the leading comorbidity (65.5%), and most patients had been undergoing hemodialysis for a considerable period. Likewise, respondents at Muhammadiyah Lamongan Hospital displayed comparable characteristics. A larger proportion were male (66.0%), with the highest distribution in the 56–65-year age group (44.0%). Almost all were married (94.0%), though 80% were no longer working. Secondary education remained the most dominant level (54.0%). Regarding treatment history, nearly half had received hemodialysis for 1–12 months (48.0%), and hypertension was again the most frequently reported comorbid condition (54.0%) (Table 1).

The client's level of knowledge about fluid restriction of clients with kidney failure is that the majority of the knowledge level is in the good category at Muhammadiyah Hospital Lamongan and sufficient category at Haji Hospital Surabaya. This means that the level of knowledge of clients at Muhammadiyah Lamongan Hospital is better, but there are still 38.2% of respondents with sufficient knowledge and 12.7% of respondents with less knowledge. Meanwhile, at Haji Surabaya Hospital, it is also necessary to increase the knowledge of respondents. In both hospitals, some respondents still did not understand about kidney failure itself, fluid restrictions, dietary restrictions and recommendations, activities and lifestyle (Table 2).

Evaluation of Respondents Compliance with Kidney Failure

Patient adherence to fluid restriction was generally in the moderate category at both hospitals. At Haji Hospital, however, a greater proportion of patients demonstrated low adherence, with 15 respondents (30.0%) falling into this group, compared to only 3 respondents (12.7%) at Muhammadiyah Hospital Lamongan. These findings highlight the need for stronger efforts to improve compliance, as controlling fluid intake is a crucial component of hemodialysis management. Questionnaire analysis further indicated that the most frequent areas of non-adherence were related to dietary and fluid restrictions, whereas attendance at hemodialysis sessions and medication intake showed relatively better compliance. Insights from

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Table 1. Demographic Characteristics of Research Respondents Based on Hospitals on 15 – 30 July 2021 (n = 105).

Category	Muhammadiyah Hospital Lamongan (n = 55)		Surabaya Hajj Hospital (n = 50)		Total (n = 105)	
	n	%	n	%	n	%
Gender						
Man	27	49.1	33	66.0	60	57.1
Woman	28	50.9	17	34.0	45	42.9
Age						
21-25 Years	1	1.8	3	6.0	4	3.8
26-35 Years	8	14.5	2	4.0	10	9.5
36-45 Years	9	16.4	9	18.0	18	17.1
46-55 Years	27	49.1	14	28.0	41	39.0
56-65 Years	10	18.2	22	44.0	32	30.5
Marital Status						
Marry	48	87.3	47	94.0	95	90.5
Single	5	9.1	3	6.0	8	7.6
Widow widower	2	3.6	0	0.0	2	1.9
Job						
Work	28	50.9	10	20.0	38	36.2
Does not work	27	49.1	40	80.0	67	63.8
Education						
Base	10	18.2	11	22.0	21	20.0
Intermediate	30	54.5	27	54.0	57	54.3
High	15	27.3	12	24.0	27	25.7
Hemodialysis duration						
1-12 Months	12	21.8	24	48.0	36	34.3
> 1-3 Years	11	20.0	10	20.0	21	20.0
> 3-5 Years	24	43.6	8	16.0	32	30.5
> 5 Years	8	16.0	8	16.0	16	15.3
Illness History						
Hypertension	36	65.5	27	54.0	63	60.0
Diabetes mellitus	12	21.8	10	20.0	22	21.0
Others	7	12.7	13	26.0	20	19.0

Table 2. Knowledge of clients and families about fluid restriction in kidney failure by hospital on 15 – 30 July 2021 (n = 105).

Knowledge	Muhammadiyah Hospital Lamongan (n = 55)		Surabaya Hajj Hospital (n = 50)		Total (n = 105)	
	n	%	n	%	n	%
Less	7	12.7	7	14.0	14	13.3
Moderate	21	38.2	23	46.0	44	41.9
High	27	49.1	20	40.0	47	44.8

Table 3. Client's knowledge about fluid restriction in kidney failure by hospital on 15 – 30 July 2021 (n = 105)

Adherence	Muhammadiyah Hospital Lamongan (n = 55)		Surabaya Hajj Hospital (n = 50)		Total (n = 105)	
	n	%	n	%	n	%
Fluid restriction						
Less	11	20.0	18	36.0	29	27.6
Moderate	36	65.5	27	54.0	63	60.0
High	8	14.5	5	10.0	13	12.4
Diet restriction						
Less	3	5.5	14	28.0	17	16.2
Moderate	46	83.6	34	68.0	80	76.2
High	6	10.9	2	4.0	8	7.6
Take medicine						
Less	3	5.5	1	2.0	4	3.8
Moderate	52	94.5	49	98.0	101	96.2
High	0	0.0	0	0.0	0	0.0

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Dialysis Session						
Less	2	3.6	4	8.0	6	5.7
Moderate	53	96.4	46	92.0	99	94.3
High	0	0.0	0	0.0	0	0.0

Table 4. Implementation of Discharge Planning by Hospital on 15 – 30 July 2021 (n = 105).

Implementation of Discharge Planning	**Muhammadiyah Hospital Lamongan (n = 55)**		**Surabaya Hajj Hospital (n = 50)**		**Total (n = 105)**	
	n	**%**	**n**	**%**	**n**	**%**
Medication						
Less	32	58.2	34	68.0	66	62.9
Moderate	14	25.5	16	32.0	30	28.6
High	9	16.4	0	0.0	9	8.6
Environment						
Less	29	52.7	29	58.0	58	55.2
Moderate	20	36.4	18	36.0	38	36.2
High	7	10.9	3	6.0	9	8.6
Treatmentt						
Less	28	50.9	33	66.0	61	58.1
Moderate	20	36.4	14	28.0	34	32.4
High	7	12.7	3	6.0	10	9.5
Health Teaching						
Less	10	18.2	13	26.0	23	21.9
Moderate	32	58.2	27	54.0	59	56.2
High	13	23.6	10	20.0	23	21.9
Outpatient Referral						
Less						
Moderate	21	38.2	31	62.0	52	49.5
High	25	45.5	18	36.0	43	41.0
	9	16.4	1	2.0	10	9.5
Diet						
Less	21	38.2	36	72.0	57	54.3
Moderate	29	52.7	12	24.0	41	39.0
High	5	9.1	2	4.0	7	6.7

Table 5. Evaluation of Completeness of Discharge Planning Documentation Clients with kidney failure in hospital on 15 – 30 July 2021

Instrument	Category							
	Good		Moderate		Less		Total	
	n	%	n	%	n	%	n	%
Initial MRS (New Patient Admission Sheet)	85	82	6	5	15	13	105	100
While being treated (integrated patient and family education form)	0	0	75	72	30	28	105	100
Will KRS (patient instruction sheet go home)	34	29	33	28	38	43	105	100

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interviews with nurses in the hemodialysis unit at Muhammadiyah Hospital Lamongan also revealed that many patients experienced treatment fatigue, leading to reduced motivation. Consequently, overall adherence was estimated at only around 75% (Table 3).

Evaluation of Hospital Discharge Planning

Findings on the implementation of discharge planning indicated that it was generally in the moderate category at both hospitals. At Haji Hospital, the proportion of respondents who received less optimal discharge planning was higher, with 9 patients (18.0%) reporting shortcomings, compared to only 3 patients (5.5%) at Muhammadiyah Lamongan Hospital. The area with the greatest deficiency was in providing education to patients and their families, which in turn could influence their knowledge and adherence in managing chronic kidney failure and the hemodialysis process (Table 4). Interviews conducted with 12 nurses from both hospitals revealed that the overall procedure for implementing discharge planning has been carried out fairly well, although the methods are still mostly verbal and supported by limited media. At Haji Hospital Surabaya, additional support in the form of leaflets is available, whereas at Muhammadiyah Hospital Lamongan education relies solely on oral communication. Nurses were identified as the primary health professionals responsible for discharge planning, accompanying patients from admission until discharge. However, collaboration with other health team members has not been fully optimized, leaving most of the responsibility on nurses. These findings highlight the need for strengthening interprofessional teamwork and improving the use of educational media to enhance the quality of discharge planning in hospitals.

Evaluation of the completeness of discharge planning documentation

The completeness of the discharge planning documentation when the client is being treated is mostly in the sufficient category, namely 72% and less as much as 28%. The majority of documentation when leaving the hospital was in the poor category, namely 43% which indicated that the implementation of discharge planning documentation when being treated and going out of the hospital was not optimal. The majority of documentation at the time of initial admission to the hospital was in the good category, as many as 82%, this illustrates that the discharge planning documentation at the time of initial admission to the hospital is more often carried out than documentation when being treated and going out of the hospital. The following is a recapitulation of medical records during treatment which are mostly unfilled (Table 5).

DISCUSSION

The client's level of knowledge of the client's fluid restriction of kidney failure is in the good category, this shows that the client's level of knowledge is sufficient to the information received about kidney failure. However, there are still 12.7% of respondents with less knowledge. There is still a level of knowledge that is lacking, nurses must provide better discharge planning so that patient knowledge also increases [2]. In accordance with research showing that a patient's knowledge is lacking, there are many underlying factors ranging from the level of education, information received, facilities and media used in delivering the material [3]. Lack of information is not only a factor from the patient, but also a factor from the informant so that the information provided can be conveyed properly. Likewise, when discharge planning is carried out, it is important for nurses to provide complete education to patients, so that patients can receive information and can apply it at home during treatment and carrying out hemodialysis [15–17].

The level of respondent's compliance in fluid restriction is included in the sufficient category, this shows that the level of respondent's compliance still needs to be improved, because fluid restriction is something that needs to be considered. Based on the results of the analysis of respondents' answers to the questionnaire, the highest non-compliance was with fluid and diet restrictions, while hemodialysis sessions and taking medication still showed better results. Fluid and dietary restrictions are often shown to be less compliant for patients with kidney failure, because of the difficulty of carrying out these restrictions [6, 9]. Being a kidney failure patient who has a lot of taboos makes the patient bored with the restrictions, as a result, sometimes fluid and diet restrictions are ignored. Unlike the case with adherence to taking medication and carrying out hemodialysis therapy, because treatment and medication are identical for healing, the patient will be more active and more obedient. In addition, patients also feel the effects after carrying out the compliance [4].

The implementation of discharge planning shows that the implementation is still in the sufficient category, the implementation that has the most shortcomings is in the process of delivering education to respondents and their families, so that it will affect the knowledge and compliance of respondents in the management of kidney failure and the hemodialysis process [5, 6]. Submission to families who are still lacking and still left will create ignorance from families and patients, so that they will be difficult to implement, so nurses need to

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provide complete information. Based on research, it shows that providing knowledge to patients when they are going home with discharge planning will be more effective if done using media in conveying, so that patients are able to capture better than just telling by word of mouth [7, 8].

The completeness of the discharge planning documentation when the client is being treated is mostly in the sufficient category, the discharge planning documentation at the time of initial admission to the hospital is more often done than documentation when being treated and about to leave the hospital [10]. Almost all documentation will be more complete when the patient enters the hospital, because the nurse must conduct an assessment and must also directly fill in the deficiencies of the assessment that has been carried out. The limitation of this study is that a more in-depth study is needed to evaluate adherence to hemodialysis patients. In addition, intervention research is needed to overcome the problem of compliance with hemodialysis patients.

CONCLUSION

Patient knowledge shows good results, patient compliance shows adequate results with the highest non-compliance with fluid and diet restrictions. Meanwhile, the implementation and documentation of discharge planning is still sufficient, so it is necessary to improve the discharge planning process to increase the knowledge and compliance of chronic kidney disease patients undergoing hemodialysis therapy.

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