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QUALITY OF DISCHARGE EDUCATION: CHRONIC DISEASES PATIENTS' PERSPECTIVES

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ABSTRACT
Readmission is a condition where a patient needs to be re-hospitalized shortly after their initial discharge. One crucial component in preventing readmission is the quality of discharge education. Objective: This study aims to describe the quality of discharge education among patients with chronic diseases Method : A quantitative descriptive study design was used. A total of 121 in patients with chronic disease from a regional general hospital in West Java were selected through consecutive sampling. Demographic and characteristic questionnaires and the Quality of Discharge Teaching Scale (QDTS) were used as instruments. It consisting of 6 paired questions with a validity value 0.98 and reliability 0.92. Descriptive statistics were applied for data analysis. Results: Chronic patients' score of content needed and content received were high (46.7 ± 11.9). This means that patients have high information needs and the information they received from nurses answer their needs. However, there are some points where it is considered that the needed information has not been fulfilled by the information received. Conclusions: Even though the quality of the provided discharge education is high, the improvement particularly in terms of information related to who and when should be contacted and information about emotion are needed.

Keywords: chronic diseases; discharge planning; discharge education; quality; readmission

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INTRODUCTION

Hospital readmission is one of the most common and serious post-hospital discharge problems. It occurs when a patient has been discharged from the hospital and is readmitted for the same or related treatment shortly after (Sheetrit et al., 2023). This problem not only increased inpatient costs, with recorded costs in America ranging from 15-20 billion USD due to readmission, but a lot decreased patient satisfaction, disruptions to psychological aspects, and even death (R. C. Clement et al., 2014; S. Clement et al., 2015; Rice et al., 2018; Sheetrit et al., 2023).

One of the patients who most often experience readmission is patients with chronic diseases (Berry et al., 2018). This disease not only has high prevalence, but also requires ongoing management and monitoring over a long period of time (Barlow et al., 2016), and often have a significant negative impact on patients' quality of life (Salisbury et al., 2011; Valderas et al., 2019). A study found that 50% of readmission cases occurring in chronic patients (Brunner-La Rocca et al., 2020). Other studies found that the average readmission rate within 30 days after hospitalization in patients with chronic illnesses was 20% (Fischer et al., 2014; Hansen et al., 2011; Hoffman, 2010). Moreover, one study found that as many as 7% of patients with

certain chronic diseases were even at risk of death within 90 days after treatment (Kozioł et al., 2021).

A study shows comprehensive discharge planning significantly reduces readmissions rates (Berry et al., 2018; Brunner-La Rocca et al., 2020; Rice et al., 2018; Weiss et al., 2007). The amount of educational content received and the nurse's skills in delivering content and coordinating care in pre-discharge education significantly contributed to the patient's perception of discharge readiness (Weiss et al., 2019). Quality discharge planning during inpatients period determine the incidence of unplanned readmission within 30 days post discharge (Henke et al., 2017). A discharge planning that is structured and adjusted to individual patient needs results in a reduction in the number of unplanned readmissions (Gonçalves-Bradley et al., 2016).

One of the key components of successful discharge planning is the discharge education provided to patients and their families. This education includes information regarding managing health conditions, use of medications, as well as signs and symptoms to pay attention to after returning home. Providing adequate education effectively increase the patient's understanding of their condition, reduce the risk of complications, and increase the patient's ability to care for themselves after returning home from the hospital. Thus, education in discharge planning not only provides information, but also improves patient independence in managing their health conditions after hospitalization (Abdul-Kareem et al., 2019; Nair et al., 2020; Weiss et al., 2007).

Patients' perceptions of the quality of discharge education are a valuable indicator of the adequacy and appropriateness of discharge education provided by the healthcare professionals in addressing patients' needs of post-discharge care. Previous studies showed that chronic diseases patients who perceived good quality of discharge education identified had lower readmission rates (Guan & Feng, 2023; Nurhayati et al., 2019; Weiss et al., 2019; Yang et al., 2020; You et al., 2022). Another study found that the quality of discharge education provided by nurses is the main factor that contributes to the patients' discharge readiness (Nurhayati et al., 2019). Additionally, patients who perceived low quality of discharge education were tend to felt not ready for discharge and more vulnerable for experiencing worsening conditions in the post-discharge period, such as medication inappropriateness and increased readmission rates within 30 days after hospital discharge (Wallace et al., 2016). Therefore, measuring patients' perception on quality of discharge education not only inform the existing discharge education performance but also the aspects must be improved for better outcomes.

Previous study found that the quality discharge teaching scale (QDTS) was rated highly by chronic disease patients (Yang et al., 2020). This research explains that the high QDTS is caused by the research setting in the form of a tertiary general hospital. Therefore, nurses in these hospitals have a higher educational background and more frequent and rigorous professional training, so that nurses have higher professional literacy and can guide patients better. Further literature searches did not find any studies on the quality of discharge education for patients with chronic diseases conducted in Indonesia. Therefore, further research is needed to identify the quality of discharge education for patients with chronic diseases in Indonesia.

In Indonesia, the prevalence of chronic diseases is continuously increasing, and the four highest prevalence rates in 2018 were 34.11% (hypertension), 10.9% (stroke), and 9.2% (heart disease), and 8.5% (diabetes mellitus) (Indonesian Mynistry of Health, Research and

Development Center, 2018). In addition, it was found that many patients with chronic diseases in Indonesia were unaware that they were suffering from chronic diseases due to late diagnosis, and even some patients were diagnosed when they were hospitalized due to complications of chronic diseases. Moreover, a study in Indonesia found that the health care system in this country tend to be fragmented (Mahendradata et al., 2017). With this condition, chronic patients in Indonesia may face more difficulties in managing their post-discharge care. Therefore, assessing the quality of discharge education in Indonesian context is even important more as the post discharge management was challenging more for the patients.

The importance to assess patient needs and how they have received this information is very important. By knowing this, hospitals can develop methods or teaching that adapt to patient needs. In the end, patient information needs are met properly and can improve the patient's health and quality of life after hospital treatment. Thus, a study of the quality of discharge education becomes important.

METHOD

This descriptive study is part of bigger project identifying impact of quality of discharge education on discharge readiness and post-acute care adherence among patient with chronic diseases. Number of samples was calculated based on the monthly rate of patients with chronic diseases hospitalized in the previous year (2023). Chronic diseases patients were included when they are conscious and able to communicate written and verbally, generally in stable condition, hospitalized for a minimum of 2 x 24 hours and received discharge education, and has been decided for hospital discharge. Patients with poor physical condition, such as severe visual and/or hearing impairment, or who were unable to complete the questionnaire, non-medical/own hospital discharge decisions were excluded from the study. After the formal permission letter and ethical clearance were gained, the first author facilitated by the ward nurse approached the eligible patients. Patients who were willing to participate in the research provided an informed consent form for signing and provided the questionnaires. The 1st author accompanied patients while they completed the questionnaires, including providing additional description when patients had inquiry regarding the questions in the questionnaires.

This research was approved by the University's Ethics Committee No. 032/KEPK/FITKes-Unjani/II/2024 and formally allowed to collect the data by the hospital with permission letter number ST.02.01.07/192/RSUD/II/2024. Patients participated voluntarily and provided written informed consent. A total of 121 in patients with chronic diseases in adult medical and surgical wards of a secondary hospital in west java were selected through consecutive sampling between February and March 2024. This study used a demographic data questionnaire containing gender, age, marital status, education level, occupation, monthly income, ethnicity, residence arrangements, insurance ownership, and clinical characteristics data containing media diagnosis, length of diagnosis, history of hospitalization, period previous hospitalization, and current hospitalization time. To measure the quality of provided discharge education, the quality of discharge teaching scale (QDTS) was used in this research. QDTS was developed by Weiss et al. (Weiss et al., 2007). In this research, we used the newest QDTS's version (Weiss et al., 2019). It consists of three subscales; content needed, received, and the way the nurses provide the education. In this paper we focused more analyzing the content needed and received subscales.

The scale consisted of 6 paired items using a 0–10 Likert scale indicating how much patients need the provided teaching contents (6 items) and other 0–10 Likert scale to indicate how much the received teaching contents answer what they need (6 items). All sub-scales are calculated as the mean of item scores (sum items and divide by number of items), with higher mean scores indicate the better quality of discharge education. Translation of the QTDS into the Indonesian version was conducted through forward and back-translation methods. The QDTS Indonesian version then tested for the face validity with 5 chronic patients to check whether or not they understood the provided questions. All of the patients reported that they easily understood and were able to answer the questions. All questionnaires were collected on-site by the research after completion. A total of 121 questionnaires were sent out and 121 valid questionnaires were analyzed. Continuous variables were reported as mean standard ± deviation (SD). The data will also be categorized into high and low based on the mean score While categorical variables were expressed as frequency and percentage.

RESULTS

Among all the 121 patients, more than half were male (59.5%), age ranged from 20 to 91 years (56.71±16.11 years), graduated from elementary school and unemployed (53.7%). Overall, patients perceived that the discharge education content provided by the nurses are good, either the content needed or receivedh. Table 1 showed that participants with higher mean score of the content needed compared to content received, indicates that the discharge education content did not fully answer what patients' needs were observed among those who are female, younger (20-40 years), married, senior high and below, employed, and live alone. Patients' characteristics and their perception on the QDTS were presented in table 1.

Table 1.
Distribution of Patients' Perception on theContent Needed and Received of Discharge Education based on Patients' Demographic Characteristics (n = 121)

Characteristic	f	%	Content Needed Mean (SD)	Content Received Mean (SD)
Gender				
Male	72	59.5	48.45 (13.1)	48.00 (10.5)
Female	49	40.5	46.48 (12.4)	42.48 (10.9)
Age (Mean ± SD) (56.71±16.11)				
20-40 years	21	17.4	49.0 (9.6)	47.2 (8.6)
41-60 years	43	35.5	46.2 (14)	45.9 (10.8)
≥61 years	57	47.1	48.4 (12.9)	45.0 (11.6)
Marital Status				
Married	112	92.6	47.8 (13.0)	46.1 (10.8)
Single	4	3.3	39.5 (13.0)	39.7 (10.5)
Divorced	5	4.1	50.8 (5.4)	42.0 (9.2)
Educational Level				
Not attending	2	1.7	54.5 (7.7)	48.5 (12.0)
Elementary school	65	53.7	48.8 (11.7)	45.6 (10.6)
Junior High School	16	13.2	51.3 (8.3)	47.6 (9.0)
Senior High School	29	24	46.1 (14.3)	45.4 (12.6)
College	9	7.4	35.6 (17.4)	43.6 (9.8)
Employment				
Unemployed	74	61.15	47.7 (13.4)	48.4 (9.3)
employed	47	38.85	47.6 (12.6)	44.1 (11.3)
Living arrangement				
Living alone	2	1.7	51.5 (2.1)	40.0 (14.1)
Living with family	119	98.3	47.5 (87.4)	45.8 (10.7)

Table 2 shows clinical information from research respondents. Almost half of the respondents had a medical diagnosis including heart disease 45.5% admitted to undergoing repeated hospitalizations with the same disease (61.2%) where 20% of re-hospitalizations occurred in the last 1 month and the length of stay between 2-5 days (90.9%). Most of the respondents were diagnosed with an illness in less than one year 67.8%, respondent admitted that they had been hospitalized repeatedly with the same medical diagnosis 61.2%. Based on Table 2, patients with COPD and CKD have a greater need for information than others. Meanwhile, patients with diabetes feel that their needs have not been met with the content received. Participants who stay in the hospital for 6-10 days have high needs and high evaluations for content received. Patients who experienced readmissions of less than 30 days had high content needed.

Table 2.
Distribution of Patients' Perspectives on the Content Needed and Received of Discharge Education Based on Patients' Clinical Condition (n = 121)

Characteristic	f	%	Content Needed Mean (SD)	Content Received Mean (SD
Diagnose				
CHD	43	35.5	46.7 (14.6)	46.6 (14.6)
Diabetes	6	5	45.8 (12.5)	45.8 (12.5)
COPD	12	9.9	52.0 (8,6)	43.0 (10.9)
CKD	17	14	55.7 (5.3)	53.8 (6.9)
Stroke	19	15.7	40.5 (12.1)	40.6 (10.2)
Others (GERD, Cancer, Hypertension)	24	19.8	47.3 (13.0)	45.0 (11.7)
Length of Diagnosis Time (Mean + SD = 2.66 +3.78)				
<1 years	82	67.8	46.6 (13.7)	45.8 (11.3)
2-5 years	23	19	52.2 (8.0)	47.1 (8.6)
6-10 years	10	8.3	46.2 (13.7)	45.6 (10.5)
>10 years	6	5	46.5 (13.3)	40.5 (11.3)
History of Hospitalization with the Same Disease				
Yes	74	61.2	48.9 (13.3)	46.5 (10.9)
No	47	38.8	45.6 (12.0)	44.5 (10.6)
Last Hospitalization				
Never	41	33.9	45.0 (11.7)	43.8 (10.1)
last week	12	9.9	40.5 (15.0)	43.5 (12.0)
last 30 days	14	11.6	52.1 (6.1)	48.0 (7.4)
last 60 days	9	7.4	51.0 (13.6)	48.2 (10.5)
> 90 days	45	37.2	49.9 (13.8)	46.9 (11.9)
Length of stay (Mean ± SD = 3.93±1.38)				
2-5 days	110	90.9	46.8 (13.1)	45.2 (10.9)
6-10 days	10	8.3	56.0 (5.3)	51.7 (7.1)
>10 days	1	0.8	50.0 (0)	43.0 (0)

Table 3 show that there are differences in the demand for guidance content among participants. There is a discrepancy between the information needed and received for each item of the QDTS questionnaire. There was a statistically significant difference between needed and received scores for the items' information about emotions and information about when and whom to contact. This means that for these two items, the needed information is not met by the content received.

Table 3.
Comparison of scores for content needed and content received (n = 121)

Question Items	Content Needed (n=121) Mean (SD)	Content Received (n=121) Mean (SD)	t	*p*
Information about how to care for yourself	9.00 (1.72)	9.04 (1.68)	-.192	.848
Information about emotion	6.03 (4.35)	5.71 (4.14)	2.271	0.025
Information about medical needs or treatment	9.18 (1.65)	9.17 (1.51)	.064	.949
Practice for medical treatment or medication	7.98 (3.26)	7.76 (3.23)	.482	.114
Information about who and when to contact	6.50 (4.03)	5.16 (3.68)	6.647	.000
Family members' informational needs	8.95 (1.60)	8.92 (1.67)	.305	.861

DISCUSSION

Chronic patients' score of content needed and content received were high. This means that patients have high information needs and the information they received is also high from nurses who provide education. However, there are several points where it is considered that the needed information has not been fulfilled with the information received.

Differences in Need and Received of Content Based on Demographic Data

Women respondents have higher needs than male respondents. Women may be more concerned about post-discharge hospitals, coping with adverse reactions, and providing emotional support, leading to a higher need for information (Wang et al., 2024). The older respondent in this study has lower perception in received content. It seems like older patients are more likely to develop subtle cognitive deficits (Yang et al., 2020). The study revealed that compared with divorced or widowed patients, married patients showed higher needs and results. The result was consistent with the findings of previous studies (Nurhayati et al., 2019; Wang et al., 2024). The need for information is influenced by the level of education. It is known that respondents who have not attended school have a higher need for information compared to respondents who have a tertiary education level. Education can also influence the assessment of the information received. The highest scores were given by respondents who did not attend school. Meanwhile, the lowest scores were given by respondents who studied at universities. These different assessments can be influenced by the level of knowledge possessed. The higher the level of education, the higher the level of knowledge possessed, and vice versa (Damayanti et al., 2021). So that respondents who have higher education can assess more critically the information received from nurses. Recommendations for improving discharge teaching emphasize a patient and family-centered approach, in which content and teaching method should be tailored to patient/family characteristics and circumstances, rather than the typical approach of patient diagnosis with standardized information (Yang et al., 2020).

Differences in Need and Received of Content Based on Clinical Characteristic

According to Yang et al., (2020), QDTS scores can be influenced by medical diagnosis and length of treatment. This study shows the differences in the need for information that each respondent has with different medical diagnoses. Differences in information content needs among patients with different diseases may be related to the treatment characteristics of each disease diagnosis. Medical diagnosis can also influence the patient's assessment of the amount of content received. CKD patients have the highest needs of content. Based on observations in hospitals, this can happen because CKD patients tend to go to the hospital more often to undergo inpatient treatment for treatment such as hemodialysis. CKD patients are the patients who most often experience readmission while undergoing treatment, one of which is hemodialysis. This can lead to an increased need for information regarding the treatment and care being undertaken.

Diagnosis also affects the frequency of patients coming to the hospital. Patients who experience readmission within 30 days have high content needs. This is because they need continuous information about their condition and disease. There are differences in the need for content based on each respondent's clinical characteristics. Therefor medical staff should conduct discharge teaching for chronic patients according to their individual characteristics and needs and provide detailed introductions and guidance through accurate, appropriate, standard and efficient methods (Guan & Feng, 2023).

Chronic disease patients have a high evaluation of content needed and received, but there is still room for improvement

Analysis of the Quality of Discharge Teaching Scale (QDTS) shows the difference between need scores and received scores, where need scores tend to be higher than acceptance scores. This indicates that respondents assess that their information needs have not been met from the information they received. This can happen because the education level of some respondents is elementary school and below. Therefore the information that respondents need regarding disease and treatment tends to be more. Meanwhile, what causes a lower score to be received could be due to a lack of treatment time. The average length of stay for research respondents was 3.93 ± 1.38 days. Therefore this can cause a lack of information received by respondents due to a lack of time for care and providing education. The two content subscales needed and the content received in the analysis one by one are shown in Table 3. The average score on the required content subscale for each question item is 6.03-9.18. Meanwhile, the average score on the acceptable content subscale is 5.16-9.17. Both subscales have the same two lowest scores, namely question items related to information about emotions and information about when and who to contact.

Emotion management is an aspect that is often overlooked in the healthcare context, especially in the patient discharge process. Patients who have undergone hospital treatment may face a variety of emotions, such as anxiety, fear, or stress, related to their health condition, the discharge process, or changes in daily life (Rice et al., 2018). However, information and support related to emotional management can help patients undergo the treatment and recovery process. Lack of awareness of the importance of managing emotions may be due to a lack of emphasis or information provided by health workers in discharge practices. It could be that, in the context of health care in Indonesia, aspects such as emotional support or psychosocial involvement have not fully become the main focus in clinical practice. As a result, respondents may not fully realize or understand the importance of managing emotions. Therefore, the score for the content required for information items about emotions tends to be low based on respondents' assessments because it is considered not very important. So it could have influenced the respondent's perspective on the information provided by nurses regarding emotional management which resulted in the score received for this question item also being low.

Therefore, there needs to be an effort to increase awareness and understanding of the importance of managing emotions in the patient discharge process. This can be done through greater integration of information and education about the importance of mental health and emotional support in the discharge process, as well as additional training for health workers to be more sensitive to patients' emotional needs and provide appropriate support. Thus, awareness of the importance of emotion management may be increased, and the mean scores for related items may increase in future research. Meanwhile, items related to information about who and when to contact in a problem or emergency situation can also be caused by several factors. Based on observations made during data collection, respondents will receive a piece of paper which is a discharge instruction. On the sheet, there is a column for a telephone number that can be

contacted. However, of all the discharge instruction sheets that the researcher observed, this section was always blank. This most likely causes the patient to be unaware of the need for this information.

However, some respondents felt that the direction to come to the nearest health facility if there was a recurrence of the disease was sufficient to answer items related to information about who and when to contact in a problem or emergency situation. Some respondents also did not know how to call an ambulance during an emergency. Therefore, efforts need to be made to increase patient understanding regarding information about who and when to contact in problem or emergency situations.

CONCLUSION

The results of this survey show that there are differences in content needed and content received for patients with chronic diseases. In this research, there were two items whose needs were deemed to have not been met based on what was received Therefore, it is suggested that the treatment of information items about emotions and information related to emergency contacts can be improved. At the same time, we must actively seek ways to provide more comprehensive and effective education in a short and limited time, further improve the quality of discharge guidance, and help patients face health challenges after discharge from the hospital.

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