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Care Dependency of Individuals Discharged from Hospital and Its Effect on Their Readiness for Discharge

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Abstract

BACKGROUND/AIMS: This study was carried out to examine the readiness to discharge, and the care dependency of patients who had been hospitalized for at least two days in surgical and internal clinics who were then recommended for discharge.

MATERIALS AND METHODS: In this descriptive study, a simple random sampling method in a training and research hospital was used between April 10th, 2018 and April 10th, 2019. Five hundred forty patients who agreed to participate in this study were included. The Patient Information Form covering the sociodemographic characteristics of the patients, the Care Dependency scale, and the Readiness for Discharge scale (RDS) were used to collect the research data.

RESULTS: The median age of the patients was 61.00 years and the median of hospital stay was 5 days. It was determined that the median score of care dependency of those patients who were recommended for discharge was moderately independent with a medium score on meeting their care needs of 46.00. When the median score of the RDS was examined, it was determined that, for those people who were not ready for discharge, it was high with a total scale score of 6.18.

CONCLUSION: The use of scales for care needs and discharge may prevent the early discharge of patients from hospital, and thus, may help to reduce the development of complications after discharge, re-hospitalization and additional medical expenses. In line with the results of this study, it is clear that patients need pre-discharge education.

Keywords: Discharge, readiness, care dependency, patient

INTRODUCTION

Health problems, hospitalization and the treatment process cause an individual to have stress, anxiety and feelings of uncertainty about their future. The hospital process negatively affects the physical functions of the individual and leads to an increase in dependency and thus a decrease in their quality of life.[1] Dependency has physical, mental, emotional, cognitive, social, economic and environmental aspects, and care dependency is defined as the patient's need for professional support and request for a certain level of care depending on the decrease in their level of meeting their self-care needs and their dependency status.[2] In other words, care dependency is the restriction in life due to a disease or disability. This may be temporary, long-term or permanent.[3] Individuals who are discharged from hospital may have many difficulties, such as the continuation of their treatment at home, adaptation to their disease and/or the drugs they use.[1] Conditions of unpreparedness are caused by the inability of patients to manage their own needs and care needs after returning home, such as in carrying out daily tasks, caring for themselves, or their ability to perform their health care.[4]

Discharge planning is a dynamic, comprehensive and collaborative process which aims to encourage an individual to continue his/her care

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after discharge and to ensure that the caregiver can also provide the necessary service and support.[5] A well-planned discharge education ensures a decrease in the duration of hospital stay and an increase in the quality of care both in hospital and at home, resulting in improved patient satisfaction.[6] The use of a clinical assessment tool to evaluate patient readiness for discharge has been recommended as an addition to standard care for discharge preparation.[7]

In the literature, it is emphasized that readiness to discharge is effective on developments of the necessary health behavior, on improvements in quality of life, on preventing recurrent hospitalizations and also on mortality.[8-10] Considering that training and counseling are important in preparing individuals for discharge, it is important to correctly determine the situation before discharge. In line with this, this study was carried out to examine the readiness to discharge and the care dependency of patients who had been hospitalized for at least two days in surgical and internal clinics and who then were recommended for discharge.

Research Questions

This study addressed the following specific research questions:

1. What are the levels of patients' readiness for discharge from hospital?

2. What are the levels of care addiction of the patients when they are discharged from hospital?

3. What is the relationship between care addiction and readiness for discharge when patients are discharged from hospital?

MATERIALS AND METHODS

This study was a cross sectional study, carried out in an education and research hospital with a capacity of 430 beds, in a metropolitan center. This study was carried out with voluntary participants who were 18 years old or above, were literate, spoke Turkish, had no mental disorders, had been hospitalized in the internal medicine and surgical clinics of a training and research hospital between April 10th, 2018-April 10th, 2019 and were determined to be ready for discharge on their last day of hospitalization. Patients numbering at least ten times the total number of items (25 items) on the scales used in this study were targeted. While all those patients who met the inclusion criteria constituted the population of this study, the final sample consisted of 540 patients who agreed to participate using a simple random sampling method. The Patient Information Form including the sociodemographic characteristics of the patients, the Care Dependency Scale (CDS), and the Readiness for Discharge Scale (RDS) were used to collect the research data. The data were collected by the researchers at the end of the discharge day on the scheduled dates. Before the data were collected, the patients were informed about the objectives and scope of this study and asked whether they would volunteer to participate. Written and verbal consent of the participants was obtained. The forms were filled in during a 10-15-minute interview time and then collected by the researchers.

Patient Information Form

This form, which was prepared by the researchers, covered sociodemographic data such as the age and gender of the participants, and questions about their health status and requirements such as chronic disease, continuous drug use, and the need for care support.

Care Dependency Scale

The CDS is a scale which was developed by Dijkstra in Holland in 1998, based on the human needs of Virginia Henderson in order to evaluate patients' care dependency. The validity and reliability study of the CDS in Türkiye was performed by Yont et al.[11] The CDS is a scale consisting of 17 items covering the activities of daily living which determines the dependency levels of individuals and it is rated in a 5-point Likert-type format. The minimum and maximum scores which can be obtained from the scale are 17 and 85, respectively. A high score obtained from the scale indicates that the patient is independent in meeting their care needs.[11] Yont et al.[11] found the Cronbach's alpha value to be 0.91 in their validity study. In this study, it was found to have a reliability coefficient of 0.76.

Readiness for Discharge Scale

This scale was developed by Weiss et al.[12] All eight items of the RDS are evaluated between 0-10 points, and higher scores indicate a higher readiness. The validity and reliability study of the RDS in Türkiye was performed by Kaya et al.[13] The four sub-dimensions of the scale are *Personal Condition*, *Knowledge*, *Coping Skills* and *Expected Support*. Its Cronbach's alpha value was found to be 0.74 in their validity study, and it was found to have a reliability coefficient of 0.89 in this study.

Ethical Approval

This study was initiated after receiving approval from the hospital administration and the ethics committee (Sakarya University Faculty of Medicine Non-interventional Scientific Research Ethics Committee, approval number: 71522473/050.01.04/70). Informed written consent was obtained from the participants on a voluntary basis.

Statistical Analysis

Data were evaluated with the statistical software program IBM SPSS Statistics 21. It was observed that numerical variables did not conform to normal distribution while evaluating the data of this study. Frequency distributions were given for categorical variables. Whether there was a difference between two independent groups was analyzed by the Mann-Whitney U test, and the Kruskal-Wallis test was used to determine whether there was a difference among more than two independent groups. Cronbach's alpha values were interpreted for the reliabilities of the scales. The Cronbach's alpha value, which is an internal consistency measure, was calculated in order to evaluate the reliabilities of the scales. The values in Table 1 are higher than 0.70, which is generally accepted as indicating sufficient reliability. The relationship between numerical variables was examined by the Spearman correlation test. The statistical analysis of this study was performed by the researchers.

RESULTS

The median age of 540 patients included in this study was 61.00 years and the median value of hospital stay was 5 days. 48.9% of the patients were female, 74.1% were married, and 69.4% were literate or primary school graduates. It was observed that most of the patients stated that they were unemployed (80.9%), had income equal to their expenses (80.7%), lived with their spouses (52.8%), received treatment in a surgical clinic (51.7%), did not smoke (63.0%) and had a regular dietary habit (68.9%), however, most of them (35.2%) were in the overweight group (25-29.9 kg/m^2). It was observed that the median score of care dependency of the patients who were determined to be ready for

discharge was moderately independent with the medium score on their meeting their care needs of 46.00. When the median score of the RDS was examined, it was determined that the number of people who were not ready for discharge was high with a total scale score of 6.18. In terms of the sub-dimensions of the RDS, *Personal Condition* had an average of 6.00, *Knowledge* had an average of 5.00, *Coping Skills* had an average of 6.00 and *Expected Support* had an average of 9.00 (Table 1).

When some characteristics of the patients and their readiness for discharge were examined, it was observed that there was a highly significant difference between the need for support for care and the total scale and its sub-dimensions ($p<0.01$). Similarly, there was a highly significant difference between *nutritional status and knowledge* and the total scale score ($p<0.01$), and there was a significant difference between *Personal Condition*, *Coping* and *Expected Support* ($p<0.05$) (Table 2).

In Table 2, 3, some characteristics of the discharged patients, and the relationships and significance between CDS and RDS are presented. Among the patients included in this study, it was observed that those who needed support for care were not ready for discharge, while those who did not need support for care were ready for discharge, and that the score difference between them was significant ($p<0.001$). Similarly, it was observed that those with regular dietary habits were ready for discharge and this made a significant difference compared to those who were not ready ($p<0.05$) (Table 2). The correlation coefficients between the characteristics of the patients ranged from 0.151 to 0.807, and the highest correlation was between the RDS *Personal Condition* and the RDS scores ($r=0.807$, $p<0.001$). There was a positive correlation between CDS and the RDS's sub-dimension of *Personal Condition* and a weak negative correlation with *Coping Skills* ($r=0.151$, $r=-0.183$, $p<0.001$) (Table 3).

DISCUSSION

The determination of hospitalized patients' levels of care dependency while preparing for their discharge from the hospital will improve the quality of nursing care and ensure the readiness of the patients to go home.

In this study, patients independently performed their care needs at the moderate level according to CDS, and according to RDS, it was determined that they were not fully ready for discharge. They mostly felt ready for discharge in the sub-dimensions of *Support*, *Personal Condition* and *Coping Skills* while they felt least ready for discharge in the sub-dimension of *Knowledge* according to their answers given on the RDS. The fact that the minimum score was obtained from the sub-dimension of *Knowledge* indicates that the patients needed discharge education (Table 1). In their study with patients over 60 years of age (n=200), Doroszkiewicz et al.[14] found that CDS was moderately independent.

Table 1. Mean CDS and RDS score of patients

Scale averages	n	Minimum	Maximum	Median
Care Dependency Scale	540	17.00	85.00	46.00
Readiness for discharge total	540	0.00	10.00	6.18
RfD personal condition	540	0.00	10.00	6.00
RfD knowledge	540	0.00	10.00	5.00
RfD coping skills	540	0.00	10.00	6.00
RfD expected support	540	0.00	10.00	9.00

CDS: Care Dependency Scale, RDS: Readiness for Discharge Scale.

Table 2. Comparison of characteristics of patients with RDS

Variables		RfD personal condition	RfD knowledge	RfD coping skills	RfD expected support	RfD total
Needing support for care	Yes (n=246)	4.25	3.00	4.00	8.00	4.62
	No (n=294)	7.00	6.00	7.00	10.00	7.12
	Test statistics	5060,500; **0.000****	48944,500; **0.000****	54171,500; **0.000****	45250,500; **0.000****	55140,500; **0.000****
Chronic disease	Yes (n=311)	6.00	5.00	6.00	9.00	6.12
	No (n=229)	6.00	5.00	6.00	10.00	6.25
	Test statistics	35820,500; 0.906	32976,500; 0.140	37761,500; 0.229	39124,500; 0.138	36212,000; 0.737
Regular medication use	Yes (n=335)	6.00	5.00	6.00	9.00	6.25
	No (n=205)	6.00	4.50	6.00	9.50	6.12
	Test statistics	31161,000; 0.920	31819,500; 0.151	31926,000; 0.169	32532,500; 0.278	33791,500; 0.756
Regular dietary habit	Yes (n=372)	6.50	5.50	6.50	9.00	6.75
	No (n=168)	5.25	3.25	5.50	8.50	5.00
	Test statistics	26242,500; **0.003***	24076,000; **0.000****	27005,000; **0.011***	26131,000; **0.001***	23133,000; **0.000****

Mann-Whitney U test, *p<0.05; **p<0.01.

Table 3. Correlations between the dimensions of CDS, RDS

	1	2	3	4	5	6
1. Care Dependency Scale	1					
2. Readiness for Discharge Scale	0.076	1				
3. RfD personal condition	**0.151****	**0.807****	1			
4. RfD knowledge	-0.083	**0.733****	**0.567****	1		
5. RfD coping skills	**-0.189****	**-0.798****	**-0.616****	**-0.423****	1	
6. RfD expected support	-0.007	**0.686****	**0.301****	**0.256****	**0.421****	1

Spearman correlation test *p<0.05; **p<0.01. CDS: Care Dependency Scale, RDS: Readiness for Discharge Scale.

In another study, they found that patients staying in internal medicine and surgical clinics had higher levels of dependency according to their CDS scores.[15] In their study, Kaya et al.[13] determined that their patients (n=1,579) were not fully ready according to their RDS scores. In their study carried out on patients who had had a heart attack and were preparing for discharge, Kosobucka et al.[16] found that the patients were moderately ready to be discharged according to their scores obtained and that there was a significant relationship between their economic conditions and the mean score of the scale for readiness. In another study, it was emphasized that 95.36% of the patients felt ready for discharge and the reason for this high ratio was due to the social support received.[17] In their study carried out to determine the information needs of patients at discharge, Yalcin et al.[18] determined that patients needed information especially about their drugs. Guclu and Kursun[6], determined that patients needed information about care at home. It is known that nurses preparing discharge plans cannot play an active role in the preparation process due to insufficient staff numbers and work load density, and they also face problems such as the inappropriateness of the patient and their family for the preparation process.[9,19] To improve health team communication and collaboration regarding hospital discharge; improve the patient experience of discharge measured by patient-reported quality of discharge teaching, readiness for discharge, and post-discharge coping difficulty; and reduce readmissions and emergency department visits post-discharge.[20] In these studies, it was generally observed that individuals were not fully ready for discharge, which suggested that the education of the patients and the caregivers in the clinic was insufficient and that there was not enough planning regarding discharge education. The care support needed by the patients while preparing for discharge should be determined and met before discharge.

According to the results of this study, it was determined that those who stated that they needed support for care were not ready for discharge and that those with regular dietary habits were ready for discharge (Table 2). Kaya et al.[21], who applied the RDS in their study, stated that the presence of someone who could help in care at home or who lived together with the patient made it easier to be ready for discharge. Orak and Sezgin[22], indicated that the caregivers' education level affected the care burden, and that the duration of providing care to the patient and the care burden scores of those who were literate were higher, while Mollaoglu et al.[23] stated that those who provided support for care were first-degree relatives (husbands, children, parents, siblings) and that almost half of the caregivers met all the needs of the patient by themselves. Ozturk and Karatas[24], stated that receiving a balanced diet and the consumption of preferred meals which met their nutritional needs caused patients to have positive feelings. It is known that irregular and poor nutrition at home after discharge leads to a lack of energy, fatigue, an inability to perform daily activities and psychological disorders in the patient.[25] In their study, regular dietary habits accelerated the patient's readiness for discharge in terms of coping with their disease and meeting their daily needs, and the fact that the care support needed is not provided to the individual can lead to a failure to maintain home-care after discharge.

There was a positive correlation between CDS and the RDS sub-dimension of *Personal Condition* and a weak negative correlation with *Coping Skills* (Table 3). The factors affecting patients' readiness for discharge in the sub-dimension of *Coping Skills* consisted of age, gender, marital status, educational level, and the presence of a person living with the patient. In the sub-dimensions of *Personal Condition* and *Coping Skills*, it was indicated that the patients discharged before being ready had a higher ratio of having one of the following results; unplanned re-hospitalization, mortality or other negative consequences.[21] With respect to *Personal Condition*, males are thought to have more difficulty in meeting their care needs. In their study carried out with male patients older than 70 years, Provencher et al.[26] determined that receiving support at home (spouse, child) after discharge positively affected patients' readiness for discharge. In a study carried out in Indonesia, there was found to be a positive relationship between coping skills and discharge education.[27] Determining priority needs and accordingly planning care and discharge by considering the personal situation of the patients will ensure that the process at home continues healthily. Furthermore, male patients in society are in need of extra care. The fact that a primary caregivers (spouse, child, parent, sibling) shares the same house with the patient and has sufficient knowledge and competence regarding their care will increase the comfort of the patient. Therefore, it is necessary to include the people who are primarily responsible for giving care in the discharge education.

Study Limitations

This research was conducted in a single center. Therefore, it was limited to those patients who met the sampling criteria and agreed to participate. Therefore, these research results cannot be generalized to the entire population.

CONCLUSION

In our study, we found that the care dependency score of the patients was moderate and the number of people who were not ready for discharge was high. The use of scales for care needs and discharge may prevent the early discharge of patients from hospital, thus, they may help to reduce the development of complications after discharge, re-hospitalization and/or additional medical expenses. When patients are discharged, their self-care skills should be fulfilled either by themselves or by a caregiver. Discharge education and care practices should be provided by healthcare professionals and there should be a sufficient

number of health workers to ensure this. Furthermore, it is necessary to know the characteristics of caregivers in order to determine the groups at risk of having difficulties, to create support groups according to specified characteristics, to determine resources in the planning of the services to be provided, to improve the services provided by health institutions and to create health policies.

MAIN POINTS

- The use of scales for care needs and discharge can prevent the early discharge of patients from hospital.
- They can contribute to an improvement in the services provided by health institutions and the formulation of health policies.
- After discharge, they can help to reduce complications, re-hospitalization, and/or medical costs.

ETHICS

Ethics Committee Approval: This study was initiated after receiving approval from the hospital administration and the ethics committee (Sakarya University Faculty of Medicine Non-interventional Scientific Research Ethics Committee, approval number: 71522473/050.01.04/70).

Informed Consent: Written informed consent was obtained from all individual participants included in this study.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Concept: Ö.T., Ö.D., Design: Ö.T., Ö.D., Supervision: Ö.D., Materials: Ö.T., Ö.D., Data Collection and/or Processing: Ö.T., Ö.D., Analysis and/or Interpretation: Ö.T., Ö.D., Literature Search: Ö.T., Ö.D., Writing: Ö.T., Ö.D., Critical Review: Ö.T., Ö.D.

DISCLOSURES

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