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SAFE DISCHARGE PROCESS: THE ROLE OF NURSES AND INFORMING THE PATIENTS

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ABSTRACT

The aim of this study was to determine the information status of patients during the safe discharge process and the role of nurses in the relevant process. The sample of the study consisted of 506 patients who were discharged from the general surgery, orthopedics and urology services, where most operations occur, in a state hospital and a university hospital. Data were collected by using the practices for safe discharge at university and state hospitals form and personal description form. The practices for safe discharge form consisted of five dimensions: medication, food and drinks, activity/special restrictions, appointment and support services. The medication dimension (7.56 ± 2.08) and activity/special restrictions dimension (7.46 ± 1.14) of the practices for safe discharge form was found to be lower than the other dimensions (food, appointment and support services). It was determined that nurses did not participate actively in the patient informing process during discharge. Patient companions were reported to be given more attention and to be informed compared to other situations. According to the results of the study, it was determined that post-discharge patients were not informed adequately about medication and activity/special restrictions, and nurses did not actively participate in patient information processes during safe discharge. In addition, it was determined that the companions were excluded from the safe discharge process of the patients.

Keywords: After care; continuity of patient care; nursing process; patient discharge; patient safety

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INTRODUCTION

With the increase in the cost of health services in the world, health systems have begun to face difficulties. Increased economic pressure to reduce costs has reduced the time available for patients to stay at the hospital before discharge and urged patients to be discharged before their needs are fully met [1].

Therefore, hospitals have a responsibility to provide patients with safe care in a hospital setting and to ensure that they have discharged safely afterward [2]. This responsibility requires providing care in an organized manner, different areas of expertise and coordination of these areas. It also leads to providing patients integrated and most importantly safe care. Some coordination problems cause patients to be vulnerable and at-risk during the discharge process

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[3]. Patients can be discharged without full recovery due to the minimization of the hospital stay. In this case, the burden of managing the complexity of the care needs and the recovery process during the discharge process at home belongs to the patient and family members [1,4].

In case of a failure to provide safe discharge, patients can confront with negative events. Studies reported that some patients were discharged while the test results were still pending and adverse events occurred after discharge [5, 6]. Furthermore, it was stated that possible changes in the medication treatment of the patients during the discharge process caused problems and this situation could lead to readmission by facing adverse effects shortly after the patient was discharged from the hospital [7]. Elderly patients, especially those with complex health problems, might experience adverse events more as a result of ineffective discharge planning. The physical and mental health of the elderly may worsen more easily after discharge. Poor overall health and ignoring this fact during discharge leaves elderly people at risk of readmission, morbidity, and mortality after discharge [8]. Other than the elderly, the other groups at risk of readmission are those with chronic illnesses and who have undergone two or more surgical operations during the initial admission and have a low social background [9]. In their study, Utzolina et al. (2010) found that the earlier than planned discharge of inpatients staying in the surgical intensive care unit caused higher readmission. Also, they stated that readmissions in surgical intensive care units were correlated with high risk of death, and that especially, readmission of the patients with respiratory failure accounted for most deaths [10]. In addition, it was stated that the day, week or year of discharge might have an impact on the planning and quality of discharge, and in particular, discharges on the weekends increased the possibility of death compared to those occurred between Tuesday and Friday, and it constituted 34% of all deaths after discharge [11].

Patient education is of great importance for safe patient discharge, and the information and education need of the patients have been increasing significantly. In addition, the patient's decision about his/her own health care and his/her participation in the treatment were found to be correlated with the patient's faster recovery [12,13]. Although the preparation of patients for discharge is affected by many factors, studies with the adult surgical service patients have indicated that the quality of discharge education strongly influenced the patient's perceived preparedness for discharge [4,14]. Inadequate preparation perceived for discharge by the patients was reported to be a determining factor in coping with post-discharge illness behaviors and readmission [15]. Vesterlund et al. (2015) aimed to reduce the readmission rates of heart failure patients in rural areas within thirty days after being discharged from the hospital by redesigning the inpatient education model and found that the readmission rates decreased by 36.9%. The possibility of readmission of patients with no discharge education was found to be seven times higher [16].

An effective discharge planning can be defined as forming and implementing a planned continuous care program that meets the needs of the patient after discharge from the hospital. Optimizing the length of hospital stay and providing the necessary conditions for the maintenance of home care for the patients by evaluating their needs can maximize the effective use of hospital beds. The main elements of safe discharge are a multidisciplinary approach, assessment of the patient needs and the home conditions after discharge, early planning of care needs and effective communication. Houghton et al. (1996) identified the discharge coordinator as an individual who plans an advanced discharge process and provides support for the problems experienced by the patients after discharge, and medical and health care services, and they also found that the effective discharge plans of the discharge coordinators led to the decrease in the need for health service after discharge, and improved the quality of discharge planning [9].

Discharge preparation by nurses is vital to successful hospital-to-home transfers. Little is known about the factors related to the structure and process that facilitate or prevent the use of nursing discharge preparation in clinical practice [17]. Nurse-led early discharge planning programs reduce readmissions, mortality rates of the patients with chronic diseases and rehabilitation requirements, and it also improves the patient life quality [18]. The aim of this study was to determine the information status of patients about safe discharge practices and the role of nurses in the safe discharge process.

Nurses are health professionals dealing with patients on a one-to-one basis and interact with other health care team members, and therefore have an important role in the discharge process. The lack of effective communication causes deficiencies in the discharge practice process. Nurses should evaluate the needs of patients and their families during discharge. They should consider not only the physical needs of patients but also their emotional and economic status. During the discharge process, the learning capacity, readiness, and motivation of each patient should be evaluated separately, and which teaching

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method to use in discharge education should be determined [19].
Lalani et al. (2001) stated that a separate discharge planning team including nurses, doctors and nursing managers, and evaluation forms for discharge should be formed to ensure safe discharge. They also indicated the necessity for a comprehensive discharge summary, which provides patients with detailed information about discharge. They emphasized the importance of increasing the knowledge of nurses about discharge planning concepts and establishing a clinic-based discharge policy in the discharge process. Nurses should understand the importance of discharge planning to provide cost-effective and quality nursing care. It is also the responsibility of nurse managers and nurse trainers to highlight this important role of nurses [20].

MATERIALS AND METHODS

The aim of this cross-sectional study was to determine the information status of patients and the role of nurses during the safe discharge process in two large hospitals in Edirne. Data were collected between 01 March and 01 June 2019.
The research seeks answers to the following questions:

- How is the safe discharge process in hospitals conducted?
- What is the role of nurses in the process of safe discharge?

The sample of the study consisted of 506 patients who were discharged from the general surgery, orthopedics and urology services, where most operations occur, in a state hospital and a university hospital in Edirne.
Data were collected by using the practices for safe discharge at university and state hospitals form and personal description form. Forms were designed by the researchers by studying the current literature. The personal description form consisted of questions about gender, age, marital status, occupation, educational status, active working status, place of residence, companion status, household members and admission history. The practices for safe discharge form consisted of five dimensions: medication, food and drinks, activities and special restrictions, appointment and support services. The number of the questions for the dimensions were as follows: medication five; food and drinks, activities/special restrictions, and appointment four; support services three.

DATA ANALYSIS

All statistical analyses were conducted using SPSS 25.0 package program. Descriptive analyses (number, percentage, mean and standard deviation) were used for analyzing the data.

ETHICAL APPROVAL

Ethical board permission (2017/342-23/05) and institutional permissions from the hospitals where the study would be conducted were secured. The participants were informed of the aim of the research, were told that identifying information would not be required, were advised that their answers would remain confidential and were given informed consent forms to sign.

RESULTS

Descriptive Characteristics of the Sample

As a result of the analysis of the personal description of the patients participating in the research (n = 506), it was found that 52.2% were female, 70.6% were single, 35.8% were housewives, 47.8% were primary school graduates, 61.1% were not working. In addition, it was determined that 51.4% of the patients lived in the city, 92.5% had companions, 52% was the spouse of the companion, and 58.5% had stayed at a hospital before (**Table 1**).
The average scores of the dimensions determined in the practices for safe discharge form are shown in **Table II**. According to the data, it was determined that information about medication, and activities/special restrictions were given less than the other dimensions.

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Table II: Descriptive characteristics of participants (n=506)

Variables	n	%
Hospital		
Public Hospital	255	**50.4**
University Hospital	251	49.6
Gender		
Female	242	47.8
Male	264	**52.2**
Marital Status		
Married	332	**65.6**
Single	174	34.4
Profession		
Housewife	181	**35.8**
Farmer	49	9.7
Soldier	11	2.2
Officer	25	4.9
Self-employment	70	13.8
Student	15	3.0
Retired	80	15.8
Worker	50	9.9
Other↑	25	4,9
Education		
Illiterate	48	9.5
Primary School	242	**47.8**
Middle School	51	10.1
High School	126	24.9
Associate Degree	18	3.6
Graduate Level	19	3.8
Postgraduate	2	0.4
Actively working status		
Yes	197	38.9
No	309	**61.1**
Living place		
Village	78	15.4
Small town	168	33.2
City	260	**51.4**
Patient companion status		
Available	468	**92.5**
Unavailable	38	7.5
Patient companion		
Unavailable	38	7.5
Doughter	71	14.0
Brother/sister	29	5.7
Wife/husband	263	**52.0**
Friend	37	7.3
Mother	44	8.7
Elder sister	3	0.6
Son	14	2.8

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Bride	3	0.6
Father	4	0.8
Household		
Alone	76	15.0
Wife/husband	332	**65.6**
Children	40	7.9
Mother/father	31	6.1
Caregiver	1	0.2
Other↑↑	26	5.1
Previous hospitalization		
Yes	296	**58.5**
No	210	41.5
Where will you stay after discharge?		
Own house	**339**	**67.0**
Near relatives	167	33.0
Do you benefit from social services - home care services?		
Yes	2	0.4
No	**504**	**99.6**
Have you been informed by nurses about these services?		
Yes	2	0.4
No	**504**	**99.6**
Have you been given a copy of your diet list?		
Yes	27	5.3
No	**479**	**94.7**
After discharge, were you given a form with your information written to enlighten you when you didn't know what to do at home?		
Yes	8	1.6
No	**498**	**98.4**

↑Other (Academician, teacher, private security, technician, driver, notary, theologian, waiter, sales consultant)
↑↑Other(Friend, relative)

Table II: Safe discharge sub-dimensions values

	x̄	SD	Min.	Max.
Drugs	7,56	2,084	4	12
Foods	10,28	1,946	4	12
Activity / special restrictions	7,46	1,415	3	12
Appointment	9,70	1,268	4	12
Support services	4,98	,188	2	5

Only 38.5% of the patients had information about the special precautions related to the medication after discharge and the side effects to be considered. 62.1% of this information was given by doctors. 41.1% of the patients had information about the name of their medication, at what dose and how often they should be taken. 71.5% of this information was given by doctors. 52% of the patients knew what to do when their medication was over. 83% of this information was given by doctors. 45.3% of the patients had information about the diet to be followed after discharge. 43.3% of the relevant information was given by doctors. Within a few weeks of discharge, 91.1% of the patients were informed about the tests and appointments they would need. 90.9% of the information was provided by physicians. 94.7% of the patients would not use any medical equipment after discharge. 55.6% of the

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ones who would use were informed by the nurses. 67% of the patients planned to stay at their home after discharge. Additionally, 0.4% of the patients used social services -home care services; only 0.4% of all patients were informed about this service by nurses. Of all the post-discharge patients, 73.5% were not informed about the recommendations and restrictions regarding the fluids they could take, and 59.9% were not informed about who would perform the incision care and how and how often it would be performed. 68.8% of patients did not know where to admit in the case of a complication occurrence (bleeding, swelling, pain, edema, etc.). 98.4% of the patients were not given a written form that would inform them after discharge if they did not know what to do at home. 94.7% of the patients were not given a sample of the diet list. 38.3% of the companions were not informed about the medication. Patients were mostly informed by doctors about medication to be taken after discharge, food, activity/special restrictions and appointment. According to all these findings, it was determined that nurses did not actively participate in the patient informing process after discharge. In the use of medical equipment, companions were given more attention, and they were more informed compared to other situations (**Table III**).

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Table III: Applications for safe discharge

			If information was given, who did this?							
Have you been informed about the special precautions related to the drugs after discharge and the side effects to be considered?			Nurse		Physician		No information		Other*	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Yes	**195**	**38.5**	3	0.6	**314**	**62.1**	189	37.4	-	-
No	189	37.4								
Partly	122	24.1								
Have you been informed about the name of the drugs and how often you will use it?										
Yes	**208**	**41.1**	3	0.6	**362**	**71.5**	141	27.9	-	-
No	141	27.9								
Partly	157	31.0								
Have you been informed about what to do when your medication runs out?										
Yes	**263**	**52.0**	-	-	**420**	**83.0**	86	17.0	-	-
No	86	17.0								
Partly	157	31.0								
Has the information been given to the person who will accompany you?			Yes		No		Partly			
			166	32.8	**194**	**38.3**	146	28.9		
Have you been informed about the diet you should follow after discharge?										
Yes	161	31.8	40	7.9	219	43.3	**229**	**45.3**	18	3.6
No	**229**	**45.3**								
Partly	116	22.9								
Have you been informed about recommendations and restrictions on fluids you will receive?										
Yes	90	17.8	16	3.2	111	21.9	**372**	**73.5**	7	1.4
No	**372**	**73.5**								
Partly	44	8.7								
Has the information been given to the person who will accompany you?			Yes		No		Partly			
			58	11.5	**412**	**81.4**	36	7.1		
Have you been informed about the conditions in the house, climbing stairs, lifting weights, bathing?										
Yes	176	34.8	9	1.8	**287**	**56.7**	210	41.5	-	-
No	**210**	**41.5**								
Partly	120	23.7								
Were you informed about how often, how and who will perform wound care?										
Yes	100	19.8	9	1.8	194	38.3	**303**	**59.9**	-	-
No	**303**	**59.9**								
Partly	103	20.4								
If you are going to use medical equipment (blood pressure monitor, glucometer, etc.) after discharge, have you been informed about this?										
Yes	14	2.8	**15**	**55.6**	4	14.8	4	14.8	4	14.8
No	4	0.8								
Partly	9	1.8								
Will not use medical equip.	**479**	**94.7**								
Were you informed about your tests and appointments you will need within a few weeks of discharge?										
Yes	**378**	**74.7**	1	0.2	**460**	**90.9**	45	8.9	-	-
No	45	8.9								
Partly	83	16.4								
In case of any complications (bleeding, swelling, pain, edema, etc.), have you been informed about where to go?										
Yes	97	19.2	3	0.6	155	30.0	**348**	**68.8**	-	-
No	**348**	**68.8**								
Partly	61	12.1								

*Other: Dietician, healthcare personnel

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DISCUSSION

In our study, when the five dimensions of the practices for safe discharge form (medication, food, activity/special restrictions, appointment, support services) were examined, it was determined that almost half of the patients were informed about the medication and the information was provided mostly by physicians. Inadequate information about the medication during discharge might cause medication errors that involve the risk of hazard to patients. In their study, Borgsteede et al. (2011) reported that patients had variable needs about their post-discharge medication and most patients demanded to obtain basic information about their medication and its side effects. Some patients stated that they did not need information about the side effects lest their attitudes towards their medication are negatively affected. Patients demanded both written and oral information about the medication after their discharge [21]. In their study, Smith and Liles (2007) evaluated the pre-discharge information needs of MI patients, and it was stated by the patients that they would like to be informed more about medication, complications and physical activity [22]. Lack of knowledge about medication and activities/special restrictions may cause patients to have difficulty after discharge and to be readmissions. In addition, the lack of information about medication and adverse effects can compromise patient safety. In Turkey, informing the process about medication and activity/special restrictions is generally performed by doctors, and it is a common opinion among nurses that informing patients is the doctors' duty. For this reason, thinking that this duty would be performed by doctors, nurses do not generally inform the patients even if they need it. However, nurses are expected to be more active in the discharge process.

In our study, almost half of the patients had information about the diet that they should follow discharge. Most of this information was provided by doctors. In the early period of post-discharge, nutrition may improve patient outcomes. It was stated that especially with the elderly post-discharge patients, it was slow to return to the preadmission nutritional status. In their study, Rüfenacht et al. (2010) reported that 60% of admissions patients did not get adequate nutrition, but their life quality before and after discharge increased with nutritional counseling [23]. Especially, the nutritional support needs of the post-op patients should be determined by the nurses and planned with the help of a dietician. In our study, it was observed that nurses did not play an active role in the process in which patients would be informed about their post-discharge diet; moreover, physicians and dieticians did not pay much attention to this process. Good planning of the nutrition process by the nurse, physician, and dietician, which directly affects the healing process of the patients, will prevent complications and readmissions connected with this situation.

In our study, more than half of the patients were informed about the tests and appointments they would need after discharge. Monitoring and control of patients after discharge is of great importance in preventing readmissions. In their study, Graft et al. (2010) stated that monitoring of patients after discharge prevented readmission and increased the survival rate and that the cost of readmission was higher than the cost of monitoring patients after discharge [24]. The highest information domain in our study was about post-discharge tests and appointments; however, it is unknown whether the follow-up process of the patients was effective or not. Establishing an effective follow-up system will facilitate the follow-up of the post-discharge patient recovery process.

More than half of the patients were not informed about who would perform the incision care and how and how often it would be performed, and they did not know where to admit in the case of a complication occurrence (bleeding, swelling, pain, edema, etc.). In their study, Graft et al. (2010) reported that there were three areas of information that patients needed (pain management, incision/wound care and activities), and patients generally demanded a high level of information [24]. Nurses play an important role in this process. Giving information to patients in the process of preparing patients for discharge prevents complications and patient readmissions. Nurses have a critical role, especially in the prevention of post-op complications and in the preparation process of patients and their families for discharge. Barbara et al. (2006) reported that the cost of complications after discharge was very high [25]. In our study, it was observed that nurses did not play an active role within this dimension as well. Arrangements that would allow nurses, by cooperating with doctors, to inform the patients about the issues such as incision and complications before discharge, and to take an active role in the relevant matter should be made.

In our study, the majority of patients were not given an informative post-discharge form with written information and a sample of a diet list for the cases in which they did not know what to do at home. It is important to give the patient a post-discharge form with a summary of discharge for transferring information to a different hospital in a later follow-up. Weetman et al. (2017) stated that discharge summaries to be given to patients should have an understandable language and patient discharge summaries played an important role in the transfer of

information [26]. Providing the patients with a post-discharge guideline and discharge summary by physicians will be of vital importance in meeting patient information needs.

In our study, it was found that nurses did not play an active role in the discharge process and physicians could not plan the discharge process completely. Clinical nurses are responsible for conducting discharge preparation activities and ensuring that patients are fully prepared before discharge by cooperating with other health care team members. The role of clinical nurses in discharge is to provide an effective and efficient discharge process. Paul et al. (2008) stated that nurses play a major role in the discharge training process, and the level of knowledge of patients would increase and patients would realize their needs when nurses design a discharge management program which includes the latest evidence, and guidelines [27]. In our country, necessary improvements should be arranged for a higher level of inclusion of nurses in discharge, and the effective role of nursing in discharge should be taken into consideration by both nurses and hospital managers.

CONCLUSION

According to the results of the study, it was determined that patients were not informed adequately about medication and activity/special restrictions after discharge, and nurses did not participate actively in the patient informing process after safe discharge. Moreover, it is also difficult to claim that physicians play an active role in some aspects of the process. It was found that companions were excluded from the safe discharge process of the patient. Discharge preparation is imperative for a successful transition from hospital to home. Safe discharge planning programs under the leadership of nurses should be supported (with the inclusion of the companions in the process as well) by acquiring information about the factors related to the structure and the process that facilitate or prevent the use of the discharge preparation in clinical practice to which nurses contribute.

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CONFLICT OF INTEREST
The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS
MA: contributed to the conception and design of this study, performed the statistical analysis, critically reviewed the manuscript and supervised the whole study process. ET: contributed to the conception and design of this study, collected the data and drafted the manuscript.

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