

Patients satisfaction about their hospital discharge experience and factors associated with delay in their discharge at a tertiary referral hospital; a cross-sectional study

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ABSTRACT

OBJECTIVE

This study measures patient's satisfaction with their hospital discharge experience, and to identify the prevalence, causes, and costs of delays in discharges.

METHODS

A cross-sectional survey was done using interviews conducted with 139 patients in eight departments at a tertiary referral hospital. Delay in discharge time defined as the time between the written physician's order and the actual time of discharge. A modified form of Selker's criteria used to identify factors causing delays. All patients followed up by phone to measure their satisfaction after discharge.

RESULTS

Out of 139 patients, delays in discharge detected in 79.5% of cases with a two-hour cut-off time for delays. Almost half (47%) of cases experienced a delay in discharge with a cut-off time of four hours. Waiting for a prescription is the leading cause of delays as it is responsible for 24.56% of cases with a two-hour limit versus 20.2% with a four-hour limit. Other causes include problems in transportation and unavailable ward beds. Regarding patients' satisfaction with their discharge experiences, 54% of cases reported that their discharge experience was 'excellent,' while 21% 'very good,' 21% of patients were 'moderate,' and only 4% of patients were 'unsatisfied.'

CONCLUSION

Although most patients were satisfied with their discharge experience, the study revealed an alarming rate (47%) of four-hour delays in discharges. Waits for medical prescription and ward bed unavailability are major causes for the delay that may compromise the tertiary referral hospital ability to reach improvement targets.

Keywords: Patient experience, patient discharge, length of stay, bed occupancy.

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INTRODUCTION

Makkah is a holy city in Saudi Arabia with a population of more than six million people.[1]

Also, this city is a place to which many individuals from different countries come on pilgrimage.

Discharge time can be defined as the time from when doctors issue a discharge order until patients leave their room.[2] Delayed discharge can be delineated as the period patients stay in the hospital after their physician's order of discharge has been written.[3] Previous studies have found quite different rates and causes of delayed discharges in different settings.[4]

Delayed discharges lead to a shortage of beds, which affects many departments within the same hospital. Patient referrals from other hospitals and emergency admissions also lead to increased demand and decreased bed availability.[5] Hospitals' healthcare budget thus need to be reassessed based on their statistical center's findings.

Delayed discharges cause not only financial problems but also health problems for patients, including increased risk of nosocomial infections and diseases.[6] Therefore, the present research sought to find the factors that cause discharge delays at the tertiary referral hospital, to provide the best medical care and patient experiences possible. The optimum time for this study was during Ramadan because this is the busiest month of the year due to pilgrims visiting Makkah.[7]

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MATERIAL AND METHODS

Ethics:

The research group members were careful to follow very strict ethical standers through:

- Respect the autonomy, dignity, and justice of the patients, and provide the maximum possible beneficence and the least maleficence to the patient.
- Oral and written informed consent for private information was taken from each participant in our research.

- Ensure confidentiality of the questionnaire by coding the data.
- Patient's telephone numbers were recorded in hospital Research Center and were valid only for the research group members to be used inside the institute.

The study was ethically approved by The hospital Institutional Review Board – IRB on 20 January 2016.

Study design:

The present study was conducted at a tertiary referral hospital, Makkah, Saudi Arabia, with the goal of measuring patients' satisfaction with their discharge experiences. The study design was a cross-sectional survey using interviews of patients discharged from eight hospital departments. The sample included both males and females and Saudis and non-Saudis discharged between 7 and 22 June 2015. This period (i.e., Ramadan) was chosen because this is a special time for Muslims during which they come from around the world to Makkah, ensuring that a wide variety of people could be interviewed. The study excluded patients discharged at the weekend (i.e., Friday and Saturday), those admitted by the Out-Patient Department and individuals unable to communicate, as well as patients who refused to participate. The departments included in the study were Surgery, Internal Medicine, Neurosurgery, Oncology, Cardiac Surgery, Endoscopy, Day Care, Intensive Care, Haematology, and Cardiology.

The survey interview template was separated into three sections. Section A included questions collecting demographic data on patients, and it was filled out at the time of the interview before the actual discharge. Section B was designed to identify the reasons for discharge delays if any occurred. This was based on a translated survey that an expert translated into Arabic and translated back into English to confirm its validity. The original English survey was used for non-Arabic speakers. This section was taken from a study based on a modified

version of Selker's criteria,[8] which was modified in a pilot study for the present research.

This section was filled out via a phone interview after the actual discharge. Finally, Section C focused on patients' assessment of their discharge experience, as well as administrative information. This was adopted by the Center for Disease Control's National Hospital Discharge Survey 2006.[8] Section C was mainly filled out during an interview before discharge, except for questions about the patients' experiences and comments, which were filled out in a phone interview after discharge.

A pilot study was conducted two days before the full study to estimate the sample size. To assess the questionnaire's validity, five different departments were randomly selected, and 22 samples were taken over two days from these departments. The mean time required to complete the questionnaire was about five minutes. The samples taken during the pilot study were not included in the full study.

The survey process started each morning with identifying the patients who would be discharged either through the system or the staff. Then the researchers interviewed those patients who were going to be discharged after informed consent was obtained, filling out the survey without leading the patients to avoid any bias. The questionnaire was structured to have single answers from multiple choice responses, and the data were entered into tables for analysis.

In this study, the time of the physicians' discharge order in the patient file was considered the beginning of the discharge process, and the phone interview was conducted at the actual time of discharge. The time difference was considered the discharge delay time.

Statistical Analysis:

The data were analyzed using Version 7 of the IBM SPSS software statistical programme. For categorical variables, the percentage was used. Numeric data were presented as the mean and standard deviation or as median and range, according to the type of distribution of each variable.

Chi-squared tests were used to compare categorical variables and t-tests for numeric or continuous variables. For all the analyses, the p-value is less than 0.05, confirming that the variables can be considered statistically significant. Summaries of the data were organized using tables and figures.

RESULTS

Regarding the demographic data of 139 participants, The largest age group was between 41 and 60 years old 55 (39.6%). A little over half 74 (53.2%) of the patients were male. Others demographic data are showed in (Table 1-2) and (figure 1)

Delays in discharge occurred in 79.5% of the sample when two hours was the cut-off time of delay, while 47% experienced delays when the limit was four hours.

Regarding reasons for discharge delays, the most common reason was waits for prescriptions to be filled by the hospital pharmacy 42 (24.56%) versus 20 (20.2%) for the two-hour and four-hour cut-off values, respectively. Other significant causes included problems with transportation 20 (8.18%) versus 17 (17.17%) and unavailable ward beds 14 (8.18%) versus 11 (11.11%). Other causes for discharge delays with their frequencies are showed in (Tables 3-4)

Delays in the referral process and problems with transportation were statistically significant with the cut-off time of four hours, while delays in physician consultations, medical

prescriptions, and referral processes were statistically significant with the cut-off time of two hours. (See Table 5)

Regarding patients' satisfaction with their discharge experience, 75 (54%) said it was 'excellent,' and 29 (21%) stated it was 'very good.' A further 29 (21%) were 'moderately satisfied' with their experience, and only 6 (4%) were 'unsatisfied.'

DISCUSSION

A literature review revealed that most studies in this field had used the appropriateness evaluation protocol (AEP) to evaluate unnecessary days of hospital care, and this tool has been accepted in the United States as a valid technique. However, tools such as the AEP may have a low level of validity compared with expert review of data, and these tools do not necessarily enhance clinical judgment. Therefore, the present study relied on clinical judgment – represented by written physician's orders for discharge – to determine the point at which patients were medically fit for discharge.

Regarding the cut-off time for discharge delay, no certification policy of mean time of discharge was available, and the length of delay reported in the literature varies from one to 48 hours. Therefore, the cut-off time was set according to the hospital information system, which reported that the average time of discharge for the previous year had been between two and four hours. To calculate the percentage of discharge delays, two cut-off times of two and four hours were defined.

Of the 139 patients surveyed, delays in discharge occurred in 79.5% of the sample when two hours was the cut-off time of delay, while 47% experienced delays when the limit was four hours. Most delayed discharges result from ward bed unavailability and late physician consultations and medical prescriptions. In contrast, a previous study analyzing delays in

patient discharges and using the same method as the present research considered the delay began from the time patients were 'medically fit for discharge,' as agreed by the consultant and specialist registrar, and the delay continued until the actual time of discharge. When using a cut-off value of 48 hours, the previous study revealed that, in total, 54 of the 83 patients involved (65.1%) experienced a delay while waiting for services. Forty out of the sample (48.2%) experienced a delay that extended their discharge date.[10]

Regarding patient satisfaction about their hospital discharge experience, the percentage of patients who had a positive discharge experience (76%) is almost similar to previous studies' findings on patient satisfaction. A 2015 study focusing on patients' impressions of their discharge process revealed that 85% of the sample thought their discharge was well planned and that these patients were significantly older than those with opposing opinions.[11] In contrast, the present study showed that age was not a significant variable. Another study done in 1997 included interviews with 45 patients. Of these, 16 patients (36%) felt good about their discharge, ten were angry (22%), 13 felt neutral (29%), and 6 were ambivalent about their discharge experience (13%).[12]

Globally, quality improvement and patient satisfaction nowadays are the points of care in the medical field; for that was the rationale for conducting this study with a suitable design selected which is cross-sectional. The personal interview used to collect the data contributed in clarifying the questionnaire sections for the patients. Although this study revealed a high satisfaction rate among the patient with their hospital discharge experience, but the high alarming rate of delays in hospital discharge must be taken in consideration, and the several causes for the delay which was revealed by this study must be taken as an areas for improvement; to increase care quality and reduce costs and exposing patients to risks related to an unnecessary hospital stay.

The present research revealed the necessity of developing an organized protocol for discharge process; so by this, the time between the written order and actual discharge will be significantly decreased. To accomplish the optimum hospital discharge experience, therefore a comprehensive, integrated system improvement including (pharmacy services, medical procedures, social workers and healthcare providers performance) is highly recommended.

CONCLUSION

The present study's results support the conclusion that, although most patients are satisfied with their discharge experience, an alarmingly high rate (47%) of four-hour delays was found in discharges. This finding is cause for concern since these long delays almost certainly contribute to reduced care quality and increased costs. Most delayed discharges result from ward bed unavailability and late physician consultations and medical prescriptions. These are processes that could be improved by appropriate interventions led by patient care teams and managers.

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	n	%
Number of patients	139	100
Gender		
Male	74	53.2
Female	65	46.8
Age		
<20	10	7.2
20-40	37	26.6
41-60	55	39.6
61-80	32	23
>81	5	3.6
Marital status		
Single	31	22.3

Married	96	69.1
Widow	9	6.5
Divorced	3	2.2
Educational Level		
Illiterate	40	28.8
Elementary	21	15.1
Intermediate	18	12.9
High school	29	20.9
Collage	29	20.9
Higher Education	2	1.4

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Table 1

*Patient's characteristics

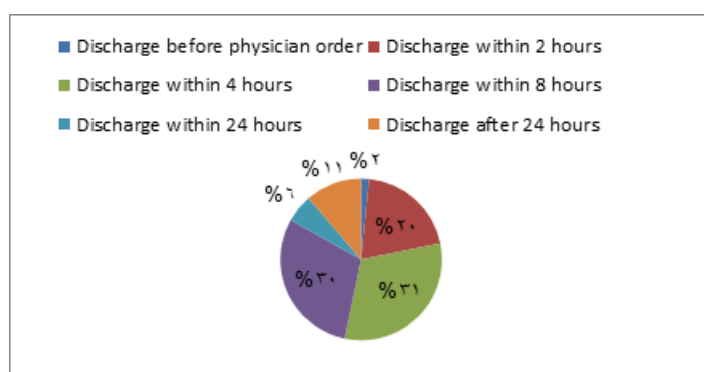


Fig 1 Patient discharge

	Specialized Surgery, Cardio surgery and Neuro-surgery Wards		42	20.2	
		n	%		
Waiting investigation	Biology Wards	6	38	3.5	27.3
Taking sample	Oncology Wards	5	18	.58	12.9
Waiting test result	One day care Units	6	18	3.5	12.9
Physician consultation	Unit	14	23	8.18	16.5
Other Physician consultation		2		1.16	
Medical prescription		9		5.26	
Prescription taking from the pharmacy		42		24.56	
Complications		5		2.92	
Complete treatment	Table 2	9		5.26	
Medical procedure		2		1.16	
Social workers	*Admission departments	14		8.18	
Nursing		4		2.33	
Patient desire		8		4.67	
Delay in referral process		1		.58	
No bed in referred department		14		8.18	
Delay ambulance		1		.58	
Problem in transportation		20		11.69	
Others		13		7.6	

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n	%
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Waiting investigation	3	3.03
Taking sample	1	1.01
Waiting test result	3	3.03
Physician consultation	7	7.07
Other Physician consultation	1	1.01
Medical prescription	5	5.05
Prescription taking from the pharmacy	20	20.20
Complications	4	4.04
Complete treatment	8	8.08
Medical procedure	1	1.01
Social workers	5	5.05
Nursing	2	2.02
Patient desire	5	5.05
No bed in referred department	11	11.11
Problem in transportation	17	17.17
Others	6	6.06

Table 4

*Frequency of factors associated with a delay time of > 4 hours

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Cause	Delay at 2 hours		Delay at 4 hours	
	Delayed	P value	Delayed	P value
Waiting investigation (7)	6	0.663	3	0.798
Waiting test result (7)	6	0.663	3	0.798
Physician consultation (14)	14	0.009	7	0.845
Other Physician consultation (3)	2	.599	1	.614
Medical prescription (9)	9	0.038	5	0.617
Prescription taking pharmacy (53)	42	0.950	20	0.057
Complications (5)	5	0.125	4	0.127
Complete treatment (13)	9	0.353	8	0.285
Social workers (15)	14	0.115	5	0.239
Nursing (4)	4	0.172	2	0.920
Patient desire (9)	8	0.439	5	0.617
Delay in referral process (4)	1	0.017	0	0.022
No bed in referred department (18)	14	0.845	11	.212
Problem in transportation (22)	20	0.115	17	.002
Others (14)	13	0.145	6	.709

Table 5

*The significance of causes of delayed discharged after 2 and 4 hours