Asian Pac. J. Health Sci., 2017; 4(1):71-75 e-ISSN: 2349-0659, p-ISSN: 2350-0964

Document heading **doi: 10.21276/apjhs.2017.4.1.13** **Research Article**

The Investigation Of Mobilization Times Of Patients after Surgery

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ABSTRACT

Objective: This study was planned as a descriptive study with the aim of investigation of mobilization times of patients after surgery. **Methods:**Population of the study consisted of patients (n=131) who stay in the general surgery clinic, had an operation at one university hospital and volunteered to participate in the research. Data were collected between27 January-30 June 2014.The data were collected by face to face meetings using a questionnaire developed by researchers. The questionnaire was applied to the patients when they firstly walked after surgery and mobilization times were evaluated in the first 72 hours after surgery. Data analysis was performed using the statistics program SPSS 20 packaged software.**Results:** It was observed that the mean age of patients was 50.61 ± 17.12 and 61.8 % of them were female. It was found that 66.4%of the patients had day surgery. It was determined that 84.7 %of the patients firstly walked in the first 24 hours, 12.2 % of them walked in the range of 24-48 hours, 0.8 %of them walked in the range of 48-72 hours and 2.3% of them didn't walk in the range of 0-72 hours after surgery.**Conclusions:** Importance of early mobilization has been emphasized in Enhanced Recovery After Surgery (ERAS) and preventing circulatory problems for many years. It was concluded that the majority of patients walked in the first 24 hours, in the clinical practices with this research.

Keywords: PostoperativePeriod, Patient, Early Mobilization, Surgical Nursing

Introduction

Early mobilization of patients was not a common practice until the middle of last century, however nowadays it has become an important part of basic nursing care[1-4].Early mobilization is in the scope of protocols named as Enhanced Recovery After Surgery-ERAS or in other words fast track protocol [1,3]. The key recommendations of the ERAS guideline comprise preoperative patient information and counseling, no oral bowel preparation, no preoperative fasting, preoperative carbohydrate loading, no preanaesthetic medication, single dose antibiotic prophylax half an hour before surgery, short incisions, avoidance of long acting opioids, mid-thoracic epidural anesthesia, paracetamol as baseline analgesic, avoidance of fluid overload, use of an upper-body forced-air heating cover, no drains, nonaso gastric decompression tubes, prevention of postoperative nausea and vomiting of high risk patients, standard laxatives, early removal of urinary bladder catheters, early oral nutrition and nutritional supplements and early mobilization [1,5-7].Anesthesia, wounds, drains and pain are the inevitable results of surgical procedures and subordinates the patients to stay in bed for short or long periods and prevents patient's mobilization[7,8]. When the patients are not mobilized insulin resistance increases, muscles get weakened and muscle weight decreases. In addition to these, failure occurs in pulmonary functions and venous thromboembolism risk increases[1,9]. Early mobilization regulates respiration, decreases accumulation of secretion in the

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lungs, accelerates peristalsis, lowers postoperative abdominal distention by increasing abdominal wall tonus and gastrointestinal system functions, thrombophlebitis is less seen at these patients as it accelerates venous circulation by accelerating the circulation in the extremities. Early mobilization lowers pain, shortens hospital stay time and lowers the costs [1,3,5,9,10].It is generally accepted that early mobilization increases the quality of postoperative period. Mobilization of patients is one of the independent, noninvasive attempts that requires information and talent of surgical patients[2,11].Based on positive effects of early mobilization on the patient,mobilization of the patient as soon as possible after the operation is very important in patient care[3].

Aim

This study was done to investigate themobilization times of patients after surgery.

Methods

Design

This study was planned descriptive study.

The research population

Population of the study consisted of patients (n=131) who stay in the general surgery clinic, had an operation at one university hospital and volunteered to participate in the research.

Data Collection and analysis

Data were collected between 27 January-30 June 2014.The data were collected by face to face meetings using a questionnaire developed by researchers. The questionnaire was applied to the patients when they firstly walked after surgery and early mobilization times were evaluated in the first 72 hours after surgery.The statistics program SPSS 20 packaged software was used in the analyses of data. To evaluate the data, descriptive statistical methods (mean, standard deviation, median, frequency, and percentage, minimum, maximum) were used.Student t-Test was used during comparison of quantitative data and during comparison of two groups of varieties that show normal distribution.

Ethic

Ethic approval for this research was taken from Scientific Ethics Committee of one University Faculty of Nursing.The verbal consent of the patients in the study and written consent of the university hospital was taken in order to perform the study.All of participants submitted informed consents after getting full explanation of the study from researchers. The informed consents included human rights of self-determination, privacy, confidentiality and fair treatment along with the study purpose and process. All data were treated anonymously with study identification number.

Results

Thestudy was performed between27 January 2014–30 June 2014 with 131 patients. Age range of patients in the study was between 17 and 95 and the average age was 50.61 ±17.12 years. 61.8% of participants (n=81)were women and 38.2% were (n=31) men.

66.4% of patients had day surgery (n=87),28.2% of patients (n=37)had lower gastrointestinal system surgery, 25.2% of patients (n=33) had breast surgery, 18.3% had (n=24) thyroid surgery, 14.5% (n=19) had hepatobiliary surgery and9.2% (n=12) had hernia surgery**(Graph 1)**.

85.5% of patients (n=112) had general anesthesia, 13.7% (n=18) had spinal anesthesia andone patient had epidural anesthesia.

97.7% of patients (n=128) were mobilized during the first 3 days of surgery. During the postoperative period, 84.7% (n=111) of patients were mobilized at the first 24 hours, 12.2% (n=16) of patients were mobilized between 24–48 hours, and one patient was mobilized between48–72hours **(Table 1).**

First mobilization time for patients who were mobilized in the first three days postoperatively (n=128) was found to be minimum 1 hour and maximum 33 hours. Average first postoperative mobilization time for patients was found to be 5±5.89 hours.

The reasons for patients who were not mobilized during the first day (n=20) were taking oxygen treatment for 60.0% (n=12), having severe pain for 20.0 % (n=4),bleeding for 10.0 % (n=2), having hypo/hypertension for %5.0 (n=1), and having tachycardia/bradycardia for 5.0 % (n=1).

It was observed that 45.8%of patients (n=60) who were mobilized during the first day (n=111) got help from the staff, 16.8% (n=22) got help from staff and a relative, 11.5% (n=15) got help from staff and fromthemselves, 6.9% (n=9) got help from staff, a relative and fromthemselves and 3.8% (n=5) got help from nurse, staff and from themselves.

During the first postoperative 24 hours, patients were mobilized minimum once and maximum 8 times; its average is 2.12± 1.25 times. At the second postoperative day, mobilization average was found to be 2.6±1.79 times; and third postoperative day average was found to be 3.0±1.41times **(Table 2)**.

When the patients were first mobilized they stood up for average 7.82±4.09minutes.Patients who were mobilized during the first day (n=111) stood up for 3-60 minutes with an average of 18±11.18 minutes. During the second postoperative day patients stood up for 22.36±16.94min; and during the third postoperative

day this number was found to be29.09±36.33 minutes **(Table 3)**.

Statistically meaningful difference was found between the patient's ages and mobilization duration (X=14.6, p=0.002; p<0.05).

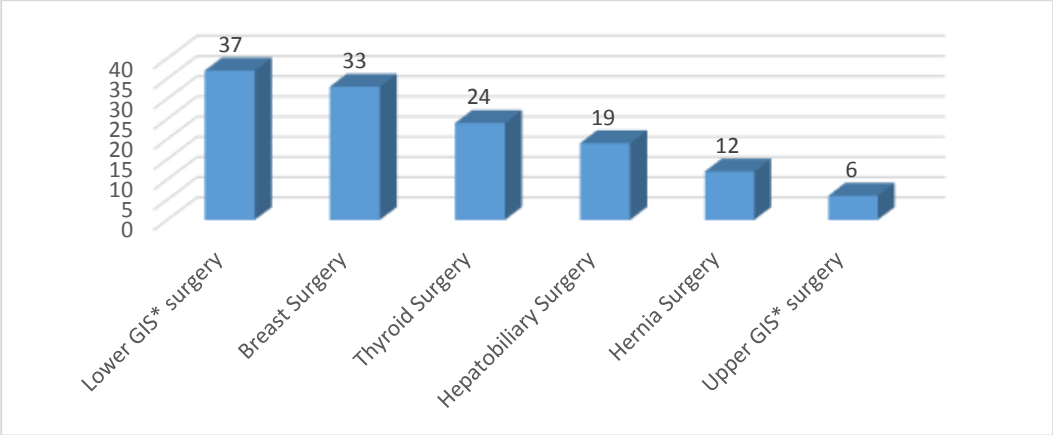
There is a meaningful difference between 0-24 hours and 24-48 hours. There is no difference between other groups. Average age of patients who were mobilized in the first 0-24 hours is less than other patients. It is found that young patients are mobilized earlier(U=508.5, p=0.006;p<0.05).

There was no statistically meaningful difference between gender and mobilization times of the patients(X= 1.68, p=0.431; p>0.05).

A meaningful difference between the surgery type and mobilization times was found. A statistically meaningful difference was found between mobilization times of day surgery patients and mobilization times of other patients (p=0.0001; p<0.05). Mobilization times of day surgery patients are shorter.

74.8% of patients (83/111) who were mobilized during the first 24 hours are day surgery patients. **Table 4** shows average mobilization times according to surgery types.

Graph 1: Distribution of Patients According to Surgery Type (n=131)



GIS: Gastrointestinal System*

Table 1: First Mobilization Times of Patients After the Operation

First Mobilization Time (hour)	n	(%)
0–24	111	(84.7)
24- 48	16	(12.2)
48–72	1	(0.8)
>72	3	(2.3)
Total	**131**	**(100)**

Table 2: Patients' Postoperative Mobilization Numbers

Time	Min-Max	Mean ±SD
0-24 hours	1–8	2.12± 1.25
24- 48 hours	1–8	3.68±2.33
48- 72 hours	3	3.00±1.41

Table 3: Patients Postoperative Mobilization Duration (minutes)

Time	Min-Max	Mean±SD
At the first mobilization	1–30min	7.82±4.09
0-24 hours	1–60 min	18.00±11.18
24- 48 hours	1–75 min	22.36±16.94
48- 72 hours	5–180 min	29.09±36.33

Table 4: Distribution of Postoperative Mobilization Times (minute) according to Surgery Type

Surgery Type(n)	Min. (minute)	Max.(minute)	Mean±SD
Thyroid surgery (24)	165	1020	295±189.25
Breast surgery (33)	60	720	263±146.78
Upper GIS surgery (5)	300	1110	861±325.12
Lower GIS surgery (35)	150	1980	654±455.98
Hepatobiliary surgery (19)	150	1200	383±249.52
Hernia surgery (12)	120	1530	385±393.36

Discussion

In the study, 97.7% of patients (n=128) were mobilized in the first three postoperative days. In the study by Topçu and colleagues (2009), 85 general surgery patients were investigated and it was found that 95.3% of them were mobilized during the first 48 hours after the operation [12]. In the same study it is defined that 30.6% of patients were mobilized on the day of the surgery and 64.7% of them were mobilized on the first postoperative day. In the study by Topçu and colleagues (2013), respiration exercise applications of breast surgery patients (n=60) and the affective factors were investigated and it was found that the patients average postoperative mobilization time is 1.01±0.29 days[13]. Kaneda and colleagues (2007) indicated that patients who were mobilized 4 hours after lobectomy showed better pulmonary function recovery than the patients who were mobilized on the first postoperative day [11]; Shoshtari and colleagues (2008) found that patients who were supported after colon surgery are mobilized earlier. Early mobilization rate is high in the study and also the positive effects of previous studies on the recovery emphasizes the importance of early mobilization [14].In the study, there is a meaningful relation between age, surgery type and mobilization times. Elderly patients may have more complications and accompanying diseases and this may cause the patient to weaken and extend the mobilization time. In Topçu and colleagues' study (2009) there was no statistically meaningful relationship between patients' mobilization behaviors and the variables. In Topçu and colleagues' study (2009), it was determined that 74.1% of patients took help from relatives during mobilization[12]. In this study, on the first postoperative day 45.8% of patients (n=60) are mobilized with the help of stuff. In our opinion, this result is affected from the nurse insufficiency and high patient density in our hospital unit.

Conclusion

Surgical patients are early mobilized in concordance with the literature and earlier studies.Nurses should take active role in mobilization of patients.

Acknowledgement

We are thankful to the patients who participated in this study.

References

1. Khan S, Gatt M, Horgan A, Anderson I, MacFie J. Guidelines for Implementation of Enhanced Recovery Protocols. Association of Surgeons of Great Britain andIreland.December 2009.
2. Sturm L, Cameron AL. Fast-TrackSurgery and Enhanced Recovery AfterSurgery (ERAS) Programs. ASERNIP-S Report No. 74. Adelaide, South Australia: ASERNIP-S, March 2009. Available from: http://docs.health.vic.gov.au/docs/doc/1177A3B11FBE1D2ACA257928001

6A633/$FILE/enhanced_patient_recovery_programs.pdf.

3. Kibler VA, Hayes RM, Johnson DE, Anderson LW, Just SL, Wells NL. CultivatingQuality: Early Postoperative Ambulation: Backto Basics. Am J Nurse.2012; 112 (4):63-9.
4. Pashikanti L, Von Ah D. Impact of Early Mobilization Protocol on the Medical-Surgical Inpatient Population and Integrated Review of Literature. Clinical Nurse Specialist.2012; 26(2):8794.https://dx.doi.org/10.1097/NUR.0b013e31824590e6
5. Morris B,Beneti M, Marro H, Rosenthal CK. ClinicalPracticeGuidelinesForEarlyMobilizationHoursAfterSurgery. OrthopaedicNursing.2010; 29(5):290-316; quiz 317-8.
6. Malik AA, Khurshid S, Chowdhri NA, Parray FQ. Enhanced Recovery after Surgery (ERAS) in Patients Undergoing Colorectal Surgeries. International Journal of Surgical Research.2013; 2(5) :5762.
7. Samnani S.S, Umer M.F, Mehdi S, HandFarid F.N. Impact of Preoperative Counselling on Early Postoperative Mobilization and Its Role in Smooth Recovery.International Scholarly Research Notice. 2014:5.http://dx.doi.org/10.1155/2014/250536
8. Donda D, Workman ML, Mishler MA, editors. Medical Surgical Nursing. 2nd Edition. WB. Saunders Company; 1995, 409-429 p.
9. Ersoy E, Gündoğdu H. Cerrahi SonrasıİyileşmeninHızlandırılması [Accelerating Recovery After Surgery]. TurkishJournal of Surgery, 2007; 23-1:35-40.
10. Erdil F, Elbaş NÖ, editors. CerrahiHastalıkları Hemşireliği [Surgical Nursing]. 4rd ed. Aydoğdu Ofset Yayıncılık. Ankara; 2001, 97-136 p.Turkish.
11. Kaneda H, Saito Y, Okamoto M, Maniwa T, Minami K, Imamura H. Early Postoperative Mobilization with Walking at 4 Hours After Lobectomy in Lung Cancer Patients. Gen ThoracCardiovascSurg.2007;55: 493498.
12. Topçu SY, Fındık ÜY, Üstündağ H, Özcan H. Cerrahi Hastalarının Ameliyat Sonrası Ayağa Kalkma Davranışlarının Değerlendirilmesi[Evaluating of Postoperative Mobilization of Surgical Patients].Türk Cerrahive Ameliyathane Hemşireliği Kongresi Kitabı, 3-6 Mayıs 2009, 89-91 p.Turkish.
13. Topçu SY, GökçeIşıklı A, Yıldız Fındık Ü. Göğüs Cerrahisi Hastalarının Solunum Egzersizi Uygulamalarıve Etkileyen Faktörler[Breathing Exercises Practice of Thoracic Surgery Patients and Factors Affecting].Usual Cerrahive Ameliyathane Hemşireliği Kongresi KongreKitabı, 21-24 Kasım 2014, 323-328 p.Turkish.
14. Shostari ZK, Connolly AB, IsraelLH, Hill AG. Fast-track Surgery May Reduce Complications Following Major Colonic Surgery. Disease of the Colonic&Rectum.2008;51:16331640.https://dx.doi.org/10.1007/s10350-008-9386-1 .

Source of Support: Nil
Conflict of Interest: None