Website: http: jebhpme.ssu.ac.ir
EBHPME 2019; 3(4): 244-9 pISSN: 2538-5070

EBHPME

ORIGINAL ARTICLE

Evidence Based Health Policy, Management & Economics
Health Policy Research Center, ShahidSadoughi University of Medical Sciences

The Effect of Startup Pre-surgery Consultation UnitsonWaiting Time before Surgery and Cancellation of Surgery: A Case Study at Farabi Hospital

Seyed JamalaldinTabibi [1], Mohammad Reza Maleki [2], Jamil Sadeghifar [3], Reyhaneh Sharifi [4*]

[1] Department of Health Care Management, Science and Research Branch, Islamic Azad university, Tehran, Iran
[2] Department of Health Care Management, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran
[3] Department of Health Education, School of Public Health, Ilam University of Medical Sciences, Ilam, Iran
[4] Razi Hospital, Tehran University of Medical Sciences, Tehran, Iran

ARTICLEINFO

Article History:
Received: 1 Feb2019
Revised: 9Jun 2019
Accepted: 18Dec 2019

***Corresponding Author:**
Reyhaneh Sharifi
Razi Hospital, Tehran University of Medical Sciences, Tehran, Iran.

Email:
Rhn_sharifi@yahoo.com

Tel:
+98-9102061170

ABSTRACT

Background: Patient preparation process for surgery is one of the strategic control points in hospitals, which can improve the patient satisfaction and increase the quality of provided services. This study aimed to determine the impact of pre-surgery consultation unit startup on waiting time before surgery and cancellation of surgery.

Methods: This cross-sectional and analytical study was conducted in an Eye Hospital in Tehran. The study population included patients hospitalized for cataract surgery at Farabi Hospital in Tehran City, Iran. Data were collected using a researcher-made questionnaire containing information about the participants' gender, age, waiting time, cancellation of surgery, and length of stay. Data were analyzed by $SPSS_{18}$ using Mann-Whitney and Chi-Square tests.

Results: Pre-surgery consultation unit startup was able to significantly reduce the patient waiting time before surgery (P-value < 0.001). No significant change was observed in cancellation rate and length of stay after the pre-surgery consultation unit startup (P-value > 0.05).

Conclusion: Considering the reduction of patients' waiting time as one of the key indicators in eye surgery, preoperative consultation process and other effective processes should be improved to maximize benefits of establishing a preoperative consultation unit at Farabi Hospital.

Keywords: Preoperative counseling, Quality, Waiting time, Cancellation of surgery, Patient

Citation

This paper should be cited as: Tabibi SJ, Maleki MR, Sadeghifar J, Sharifi R. **The Effect of Startup Pre-surgery Consultation Unitson Waiting Time before Surgery and Cancellation of Surgery: A Case Study at Farabi Hospital.** Evidence Based Health Policy, Management & Economics. 2019; 3(4): 244-9.

Copyright: ©2019 The Author(s); Published by ShahidSadoughi University of Medical Sciences. This is an open-access article distributed under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

[Downloaded from jebhpme.ssu.ac.ir on 2026-11-21]

[DOI: 10.18502/jebhpme.v3i4.2065]

Introduction

So far, all patients who required surgery were usually hospitalized at least one day before the surgery to undergo anesthesia consultation. However, only a small number of them actually need hospitalization one day before the surgery. On the contrary, patients may be hospitalized sooner due to some reasons such as prevention of the cancelling surgery or avoid delaying in referring the patient to the operating room (1). The rate of surgery cancellation was 10 % to 20 %. Delay in or cancellation of the designed surgery is very unpleasant and causes discomfort in patients, disorder in bed management, reduces operating room efficiency, and increases the hospitals' costs(2).

In order to avoid causing stress in patients, reduce costs, coordinate the surgeries' plans, and provide care for patients before surgery, pre surgery clinic was established (3). The results of studies explained benefits associated with development of extensive preoperative evaluation clinics in North America, Australia, and Europe. Reduction of the surgeries' delay and cancellations, the excessive pre-surgery tests, the rate of complications, particularly nosocomial infections, the number of individual consultations, and residence length in the hospital are among the benefits of using pre-operative assessment clinics(2).

Flynn and Sylvie (4) remarked that anesthesia clinics reduced delays, waiting time before surgery, cancellations, postoperative complications, residence length, and costs for patients before non-cardiac surgery. Moreover, some evidences showed that pre-anesthesia clinic reduced the number of unnecessary laboratory tests and individual consultations. In addition, previous studies indicated that pre-anesthesia clinic and consultation with anesthesiologists reduced the patients' anxieties and increased their satisfaction. Hawan Kim (5) believed that preoperative evaluation reduced anesthetic complications, postoperative pain, and hospitalization length. Cattano et al. (6), believed that assessment of the clinics improved utilization of hospital resources by reducing the pre-operative consultations and laboratory tests as well as improving planning. It also enhanced the efficacy of operating room and increased the hospital revenue by reducing the surgical cancellation of the pre-operative operations.

The results also showed positive effect of preoperative counseling establishment and quality of hospitalization process. For example, Lee (7) remarked that international paradigm of the surgical patients care has changed towards new systems in the multidisciplinary team in recent years. This enabled the system to manage the surgical care process. As Siragusa marked, patients' conditions can be identified by preoperative evaluation, which reduces the number of cancellations, caused by unexpected and unresolved medical reasons which can be dangerous even in simplest surgeries (8). Regarding the studies conducted in Iran, no study has ever directly examined establishment of a preoperative counseling unit on quality of services. Hospitalization process in the hospital has three main phases: admission, hospitalization length, and treatment process (9).

Policymakers, researchers, and health care providers use quality indicators or performance measures to measure and improve the quality of provided care (10). Quality indicators are a way to measure the quality of care based on the standard and optimal outcomes. They are also recognized as a key dimension of health care evaluation (11), as part of the quality management system, and an opportunity to benchmark and improve delivery (12). Key indicators of service quality and patient satisfaction in the operating room include waiting time and non-cancellation of surgery. Therefore, the quality of hospital processes was compared based on these two indices in this study.

Despite various studies on the benefits of using a consulting clinic and preoperative evaluation, few studies examined the outcomes of this unit in patients admitted for cataract surgery. Therefore, establishment of a preoperative consultation unit at Farabi Hospital is an example of a process change

[Downloaded from jebhpme.ssu.ac.ir on 2026-11-21]

[DOI: 10.18502/jebhpme.v3i4.2065]

aimed at improving quality and meeting customer expectations.

This study aimed to determine the impact of pre-surgery consultation unit startup on the patients' waiting time before surgery and cancellation of the surgery.

Materials and Methods

This cross-sectional and analytical study was conducted in 2009 and 2010. A pre-operative consultation unit was established at the end of 2009; so, the two-year baseline was determined before and after this study.

The study population included patients hospitalized for cataract surgery at Farabi Hospital in Tehran. The sample size was determined using Cochran formula and the following parameters.

$n = Nz^2pq / Nd^2+z^2pq$n: sample size, N: population size, Z: 1.96, d: 0.05

First, the sample size in the month and then it was determined on the day. Of the 1964 patients admitted in 2009, 1063 were studied and of the 2382 patients admitted in 2010, 1120 were investigated.

Data collection tools included a researcher-made questionnaire including age, gender, preoperative consultation, waiting time, length of stay, and surgical cancellation. Validity of the instrument was confirmed by two ophthalmologists and two associate professors of health services management. Data were collected from patients' medical records and hospital information systems.

The collected data were analyzed using $SPSS_{21}$ by Kolmogorov–Smirnov test and some non-parametric statistical tests, including Mann–Whitney and Chi-Square tests. A P-value < 0.05 was considered statistically significant. All the ethical considerations were considered based on the ethical declarations.

Results

The results of this study indicated that a total of 1063 patients were hospitalized for cataract surgery in the second half of 2009; 578 patients (54.4 %) were males and the others were female. Furthermore, a total of 1120 patients were studied in the second half of 2010; 637 patients (56.9 %) were males and the rest of them were female. The average of patient's age in both periods was equal to 66 years.

Examination of patients' waiting time for surgery showed that the average waiting time for surgery was 111 minutes. After startup the preoperative consultation unit, this time was reduced to 93 minutes (Table 1).

The results indicated that before starting up the preoperative counseling unit, a total of 1964 cases were scheduled for cataract surgery, but 47 (2.39 %) cases were canceled. After starting up the preoperative counseling unit, a total of 2382 surgery cases were scheduled for cataract surgery, but 61 (2.56 %) surgeries were canceled.

Regarding the cancellation causes of cataract surgery, 31 reasons were identified, which were categorized under six categories of patient condition, a defect in the admission process, surgeon conditions, deficiency of hospital facilities, and lack of planning in operating rooms. Among all these causes, only "defect in the admission process" was preventable by the preoperative counseling unit (Table 2).

The findings showed that before starting the preoperative counseling unit, patients' length of stay was 301 minutes, which reduced to 292 minutes after starting the preoperative counseling unit. However, no significant change was observed in the length of stay after starting the pre-surgery consultation unit (P-value > 0.05).

Table 1. Waiting time for patients before and after starting the preoperative consultation unit

Time	Minimum time	Maximum time	Average	SD	Z	P
Before startup	10	485	111.04	94.52	- 6.589	< 0.001
After startup	10	470	93.72	97.77		

[Downloaded from jebhpme.ssu.ac.ir on 2026-11-21]

[DOI: 10.18502/jebhpme.v3i4.2065]

Table 2. Cancellation cataract surgery before and after starting the preoperative consultation unit

Causes of cancellation	Before startup		After startup		Test Result
	Number of cancelation	%	Number of cancelation	%	
Patient condition	4	0.2	13	0.55	df = 5 P-value: 0.458
Defect in patient admission	19	0.97	18	0.76	
Failure in diagnosis process	9	0.46	12	0.5	
Surgeon condition	2	0.1	4	0.17	
Lack of hospital facilities	2	0.1	1	0.04	
The defect in the operating room schedule	8	0.41	12	0.5	
Lack of registration cause	3	0.15	1	0.04	
Total	47	2.39	61	2.56	

Discussion

The results showed that a preoperative counseling unit could significantly reduce the patients' waiting time before surgery. In other words, a set of measures taken by the pre-operative counseling unit, such as clinical evaluation of the patient, hospitalization and deficiencies, patient education on preoperative care, information on the cost of surgery, date of surgery, and timing of the cataract surgery reduced the patients' length of stay. This result is consistent with the findings of other studies, such as the research by Connor et al. (13), Ortiga et al. (1), and McHugh et al. (14), that concluded a preoperative evaluation clinic could significantly reduce the patients' waiting time before surgery.

Findings of the study on cancellation of cataract surgery in the studied hospital showed that the rate of cataract surgery cancellation did not change significantly after starting the counseling unit. The findings of this study are inconsistent with the results of most studies on the effectiveness of preoperative counseling in reducing the surgical cancellation. The results of most studies indicated a significant relationship between setting up of a preoperative counseling unit and reducing the number of consular surgeries. Research findings reported by Lee et al. (7), demonstrated that the impact of patient preparation before anesthesia and surgery reduced the surgical cancellation rates 1 to 8%. Ortiga et al. (1), and White et al. (15), reported that setting up an admission unit for surgery and performing preoperative evaluation reduced the rate of cancellation. The results of most studies showed a significant relationship between setting up a preoperative counseling unit and reducing the cancellation of surgical procedures. So, it seems that the preoperative evaluation process should be revised and improved in Farabi Hospital to increase the effectiveness and maximize the benefits of setting up a preoperative counseling unit to reduce cancellation rates.

Findings showed that patients' length of stay did not change significantly after startup preoperative consultation. In other words, no significant change was observed in the mean length of stay after implementation of the preoperative counseling unit in 2010. Our findings are inconsistent with the results of previous studies on the effect of preoperative counseling on reduction of length of stay. Findings of Flynn and Silvay (4) suggested that pre-anesthetic clinics reduced length of stay and ultimately decreased the cost of non-surgical heart patients. Kim (5), McHugh et al. (14), and Connor et al. (13), concluded that the preoperative evaluation clinic could significantly reduce the length of stay for patients.

Conclusion

The Results of this study showed that establishment of a preoperative consultation unit for cataract patients reduced the waiting time. However, this unit did not have a significant effect on the reduction of consecutive surgeries as well as the patients' length of stay. So, a revision and enhancement of the pre-operative consultation process is needed to maximize benefits of this unit by reducing the cancellation of surgeries as another indicator of timeliness. Furthermore, identifying

[Downloaded from jebhpme.ssu.ac.ir on 2026-11-21]

[DOI: 10.18502/jebhpme.v3i4.2065]

and improving effective factors on patients' length of stay in the daily surgical ward of Farabi Hospital can prevent waste of equipment and resources and improve the hospital's efficiency. This study had some potential limitations that may affect the results. The study was limited to one hospital. Therefore, generalizability of the results can be considered as a limitation of the present study. The findings were solely results of a research study and possibly more specialized investigation will show the most precise results.

Acknowledgements

This study was part of an MSc thesis supported by Islamic Azad University, Science and Research Branch (10/61309). We would like to extend our gratitude to the managers and staff of Medical Record Ward in Farabi Hospital for their cooperation with this study.

Conflict of Interests

The authors declare no conflict of interests.

Author's Contributions

Tabibi SJ, Maleki MR, and Sharifi R designed research; Tabibi SJ, Maleki MR, and Sharifi R conducted research; Sadeghifar J and Sharifi R wrote manuscript. Sadeghifar J and Sharifi R had primary responsibility for final content. All authors read and approved the final manuscript.

References

1. Ortiga B, Capdevila C, Salazar A, Viso MF, Bartolomé C, Corbella X. Effectiveness of a Surgery Admission Unit for patients undergoing major elective surgery in a tertiary university hospital. BMC health services research. 2010; 10(23): 1-5.
2. Lew E, Pavlin JD, Amundsen L. Outpatient preanaesthesia evaluation clinics. Singapore medical journal. 2004; 45(11): 509-16.
3. Correll DJ, Bader AM, Hull MW, Hsu C, Tsen LC, Hepner DL. Value of preoperative clinic visits in identifying issues with potential impact on operating room efficiency. Anesthesiology. 2006; 105(6): 1254-9. doi:10.1097/00000542-200612000-00026.
4. Flynn BC, Silvay G. Value of specialized preanesthetic clinic for cardiac and major vascular surgery patients. Mount Sinai Journal of Medicine. 2012; 79(1): 13-24. doi: 10.1002/msj.21293.
5. Kim JH. Preoperative evaluation of a surgical patient; preanesthetic interview by anesthesiology residents. Korean journal of anesthesiology. 2012; 62(3): 207-8. doi: 10.4097/kjae.2012.62.3.207.
6. Cattano D, Hiller KN, Barrow B, Daily WH, Kruppa M, Courtney Sh, et al. Anesthesia Preoperative Clinic: the Memorial Hermann Hospital TMC experience. The Anesthesiology annual meeting. 2011; 1195.
7. Lee A, Kerridge RK, Chui PT, Chiu CH, Gin T. Perioperative systems as a quality model of perioperative medicine and surgical care. Health Policy. 2011; 102(2-3): 214-22. doi: 10.1016/j.healthpol.2011.05.009.
8. Siragusa L, Thiessen L, Grabowski D, Young RS. Building a better preoperative assessment clinic. Journal of PeriAnesthesia Nursing. 2011; 26(4): 252-61. doi: 10.1016/j.jopan.2011.05.008.
9. Ortiga B, Salazar A, Jovell A, Escarrabill J, Marca G, Corbella X. Standardizing admission and discharge processes to improve patient flow: A cross sectional study. BMC health services research. 2012; 12(1): 180. doi: 10.1186/1472-6963-12-180.
10. Stang AS, Hartling L, Fera C, Johnson D, Ali S. Quality indicators for the assessment and management of pain in the emergency department: A systematic review. The Journal of the Canadian Pain Society. 2014; 19(6): 179-90. doi: 10.1155/2014/269140 ·
11. Pasichnyk D. Quality indicators for patients presenting to emergency departments with cerebrovascular events: A chart review and prospective study of transient ischemic attacks and stroke within the Alberta Health Services-Edmonton Zone [MSc Thesis]. Ann Arbor: University of Alberta (Canada); 2013.
12. Martin-Khan M, Burkett E, Schnitker L, Jones RN, Gray LC. Methodology for developing

[Downloaded from jebhpme.ssu.ac.ir on 2026-11-21]

[DOI: 10.18502/jebhpme.v3i4.2065]

quality indicators for the care of older people in the Emergency Department. BMC Emerg Med. 2013; 13: 23. doi: 10.1186/1471-227X-13-23.

13. O'Connor D, Cotter M, Treacy O, Owens T, McShane A, Mehigan D, et al. An anaesthetic pre-operative assessment clinic reduces pre-operative inpatient stay in patients requiring major vascular surgery. Irish journal of medical science. 2011; 180(3): 649-53. doi: 10.1007/s11845-011-0703-7.

14. McHugh M, Van Dyke KJ, Howell E, Adams F, Moss D, Yonek J. Changes in patient flow among five hospitals participating in a learning collaborative. Journal for Healthcare Quality. 2013; 35(1): 21-9. doi: 10.1111/j.1945-1474.2011.00163.x.

15. White CM, Statile AM, White DL, Elkeeb D, Tucker K, Herzog D, et al. Using quality improvement to optimise paediatric discharge efficiency. BMJ Qual Saf. 2014; 23(5): 428-36. doi: 10.1136/bmjqs-2013-002556.

[Downloaded from jebhpme.ssu.ac.ir on 2026-11-21]

[DOI: 10.18502/jebhpme.v3i4.2065]