



Article

The Influence of Preoperative Waiting Time on Patient Satisfaction in Surgical Care Unit

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Abstract: Background: Patient satisfaction during the preoperative phase has been found to be influenced by aspects like nurse behavior, waiting time, and preoperative education. The study aimed to assess the influence of preoperative waiting time on patient satisfaction in surgical care unit. Methodology: A cross-sectional study was randomly carried out on 150 patients who were gathered over the course of three months, from (February 1st to May 1st 2026) and the study conducted at surgical care unit at the Azadi Teaching Hospital in Kirkuk City, Iraq. Result: The study finds that the largest proportion of patients was aged 13–27 years (43.33%), Obstetrics and gynecology represented the most common surgical specialty (34.67%). Concerning health status, pain was reported by 58.00% of patients, anxiety by 46.00%, and fear by 41.33%. The overall mean waiting time among the 150 patients was 2.161 ± 2.686 hours. where all groups had P-values below 0.05. Conclusion: This study conclude that the long preoperative wait times considerably reduce patient satisfaction in the surgical care unit. Healthcare administrators and surgical units must adopt a dual approach focused on workflow efficiency and patient-centered care.

Keywords: Preoperative waiting time, Patient satisfaction, Surgical care unit.

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1. Introduction

One of the primary indicators used to evaluate the quality of hospital services is patient satisfaction. Prior to surgery, services in central surgical installations play a critical role in patient care. Patient satisfaction during the preoperative phase has been found to be influenced by aspects like nurse behavior, waiting time, and preoperative education [1]. Patient satisfaction with medical care is a crucial outcome that is increasingly employed as an indicator of maintenance quality [2]. Low levels of satisfaction are seen to be the result of a substantial shift between fulfillment and expectations of supposedly needs, and they may be linked to managing commitment that subsequently affects patient outcomes [3]. Similarly, long waiting times could elevate patients' anxiety and discomfort levels and perhaps affect their level of satisfaction [4]. One element that frequently causes patients to feel uncomfortable during the medical process is waiting time [5]. In addition to raising anxiety levels, lengthy wait times can lower patients' satisfaction with the care they receive [6]. The hospital's ability to manage service components in accordance with the patient's conditions and expectations is reflected in the length of time patients must wait. Birmingham-based research shown that assessing patient load and the clinic's delivery system resulted in shorter wait times, improved patient satisfaction, and maintenance of the effectiveness of clinical services [7]. Extended delays can also lead to communication breakdowns and heightened psychological distress, making multidisciplinary coordination vital [8], [9]. The study aimed to assess the influence of preoperative waiting time on patient satisfaction in surgical care unit.

2. Methodology

A cross-sectional study was randomly carried out on 150 patients who were gathered over the course of three months, from (February 1st to May 1st 2026) and the study conducted at surgical care unit at the Azadi Teaching Hospital in Kirkuk City, Iraq, it was officially opened in 1985, and it contains 400 beds. Ethical approval was obtained from the Ministry of Health, the Kirkuk Health Directorate and oral consent was obtained from all patients who participated in the study. A structured questionnaire was designed adhering to standard psychometric and epidemiological protocols [10], [11]. The questionnaire consisted of two parts, first part to assess the demographic and clinical factors of patients (Type of surgery, surgical specialty, health status) and second part to determine the average of preoperative waiting time and patient satisfaction. Aged ≥ 13 years who have undergone surgery and have been admitted to a surgical unit (General surgery, obstetrics & gynecology, Cardiothoracic surgery, ENT surgery, Plastic surgery, Orthopedic surgery, Urology surgery) measured as inclusion criteria, and both elective and emergency surgery concluded. While excluded all patient who unconscious, as well as patients with known mental health issues.

3. Result

Table 1. Distribution of Demographic and Clinical Characteristics, Preoperative Waiting Time, and Patient Satisfaction among Surgical Patients (n = 150)

		Frequency	Percentage
Age (Mean $\pm$ SD) (33.37 $\pm$ 14.63) (Min-Max) (13-85)	13 - 27	65	43.33%
	28 - 42	52	34.67%
	43 - 57	22	14.67%
	58 - 72	8	5.33%
	73+	3	2.00%
Level education	Illiterate	20	13.33%
	Primary Graduated	39	26.00%
	Secondary Graduated	39	26.00%
	Diploma	16	10.67%
	Bachelor	36	24.00%
Occupation	joblessness	82	54.67%
	Student	20	13.33%
	Employ	48	32.00%
Residence	Rural	56	37.33%
	Urban	94	62.67%
Type of surgery	Elective	100	66.67%
	Emergency	50	33.33%
Surgical specialty	Cardiothoracic surgery	14	9.33%
	General surgery	41	27.33%
	ENT surgery	11	7.33%
	Plastic surgery	2	1.33%
	Orthopedic surgery	13	8.67%
	Urology	17	11.33%
	Obstetrics & gynecology	52	34.67%
(Pain)	No	63	42.00%
	Yes	87	58.00%
(Anxiety)	No	81	54.00%
	Yes	69	46.00%

(Fear)	No	88	58.67%
	Yes	62	41.33%
To determine the average	< 1.00	41	27.33%
preoperative waiting time among	1.00 - 2.99	67	44.67%
patient in surgical care unit Time	3.00 - 4.99	29	19.33%
waiting	5.00 - 6.99	5	3.33%
(Mean $\pm$ SD) (2.161 $\pm$ 2.686)	7.00+	8	5.33%
(Min-Max) (10 Minutes -20 Hours)			
To determine overall the patient	Very satisfied	18	12.00%
satisfaction	Satisfied	40	26.67%
	Neutral	41	27.33%
	Dissatisfied	29	19.33%
	Very dissatisfied	22	14.67%

Table (1) presents the demographic and clinical characteristics of the 150 surgical patients. The mean age of the participants was 33.37 ± 14.63 years, with an age range of 13–85 years. The largest proportion of patients was aged 13–27 years (43.33%), followed by those aged 28–42 years (34.67%). Regarding educational level, primary and secondary graduates each accounted for 26.00% of the sample, followed by bachelor's degree holders (24.00%), while 13.33% were illiterate and 10.67% had a diploma. More than half of the participants were unemployed (54.67%), while 32.00% were employed and 13.33% were students. Most participants were from urban areas (62.67%), compared with 37.33% from rural areas. Regarding the type of surgery, 66.67% underwent elective surgery and 33.33% underwent emergency surgery. Obstetrics and gynecology represented the most common surgical specialty (34.67%), followed by general surgery (27.33%). Concerning health status, pain was reported by 58.00% of patients, anxiety by 46.00%, and fear by 41.33%. The mean preoperative waiting time was 2.161 ± 2.686 hours, with the reported waiting-time range extending from 10 minutes to 20 hours. The largest proportion of patients waited between 1.00 and 2.99 hours (44.67%), followed by less than 1 hour (27.33%) and 3.00–4.99 hours (19.33%). Only 3.33% of patients waited 5.00–6.99 hours, while 5.33% waited 7 hours or more. Regarding overall patient satisfaction, 12.00% of patients were very satisfied and 26.67% were satisfied, whereas 27.33% reported a neutral level of satisfaction. In contrast, 19.33% were dissatisfied and 14.67% were very dissatisfied. Overall, the findings indicate that although the largest proportion of patients reported satisfaction or neutrality, a considerable proportion experienced dissatisfaction with their surgical care.

Table 2. Comparison of Preoperative Waiting Time between Elective and Emergency Surgery

Type of surgery	N	Mean of waiting time	Std. Deviation	Mann-Whitney U
Elective	100	2.097 [*]	2.662	U=2413
Emergency	50	2.290 [*]	2.756	Z=-0.350
Total	150	2.161	2.686	P-Value=0.726 NS
Type of surgery	N	Mean of waiting time	Std. Deviation	Mann-Whitney U
Elective	100	2.097 [*]	2.662	U=2413
Emergency	50	2.290 [*]	2.756	Z=-0.350
Total	150	2.161	2.686	P-Value=0.726 NS

^{*}: Non-Normal Distribution

Table (2) Among the 150 surgical patients, 100 (66.67%) underwent elective surgery and 50 (33.33%) underwent emergency surgery. The mean preoperative waiting time was

2.097 ± 2.662 hours for patients undergoing elective surgery, compared with 2.290 ± 2.756 hours for those undergoing emergency surgery.

Figure (1): Distribution of Pain, Anxiety, and Fear According to Preoperative Waiting Time Categories

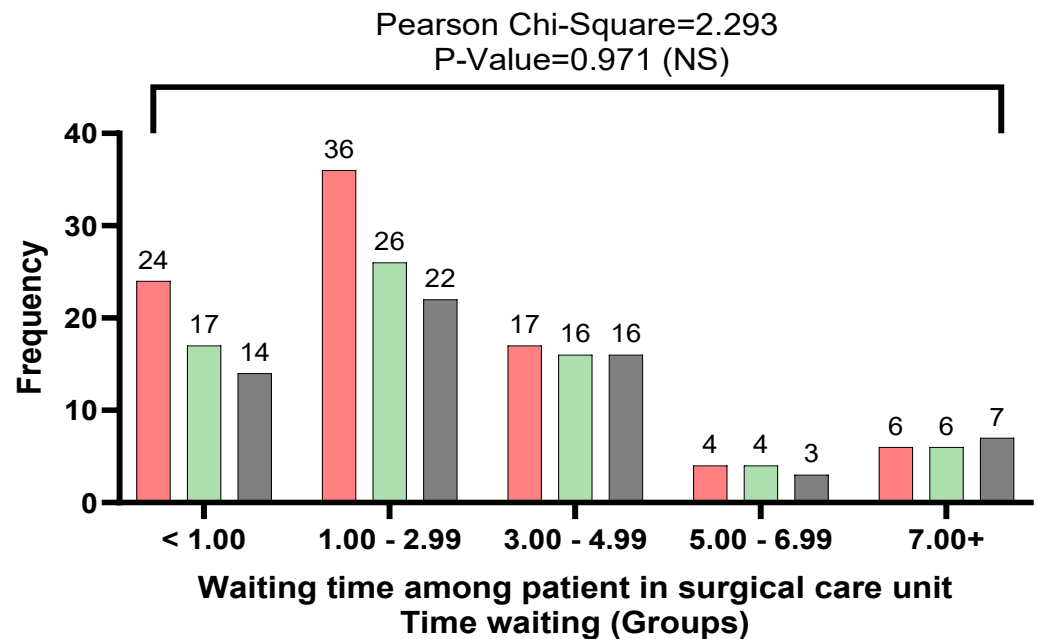


Figure 1. presents the distribution of pain, anxiety, and fear according to categories of preoperative waiting time among the 150 surgical patients. Among patients who waited less than 1 hour, pain was reported by 24 patients (27.6%), anxiety by 17 patients (24.6%), and fear by 14 patients (22.6%). For patients who waited 1.00–2.99 hours, pain was reported by 36 patients (41.4%), anxiety by 26 patients (37.7%), and fear by 22 patients (35.5%). Among those who waited 3.00–4.99 hours, 17 patients (19.5%) reported pain, 16 (23.2%) reported anxiety, and 16 (25.8%) reported fear. In the 5.00–6.99-hour group, pain was reported by 4 patients (4.6%), anxiety by 4 (5.8%), and fear by 3 (4.8%). Among patients who waited 7 hours or more, pain was reported by 6 patients (6.9%), anxiety by 6 (8.7%), and fear by 7 (11.3%). The reported Pearson chi-square test showed no statistically significant association between the variables included in the analysis ($\chi^2 = 2.293$, $df = 8$, $P = 0.971$).

Table 3. Comparison of Preoperative Waiting Time across Patient Satisfaction Levels

Satisfaction	N	Mean of waiting time	Std. Deviation	Kruskal-Wallis H	Spearman Rank Correlation
Very dissatisfied	22	3.041~	2.962	H=23.073	-.361**
Dissatisfied	29	3.552~	4.088	P-Value<0.001	P-Value<0.001
Neutral	41	1.951~	1.407	HS	HS
Satisfied	40	1.119~	1.048		
Very satisfied	18	1.642~	3.230		
Total	150	2.161	2.686		

Table (3) presents the mean waiting time was highest among dissatisfied patients (3.552 ± 4.088 hours), while the lowest mean waiting times were observed among satisfied patients (1.119 ± 1.048 hours). The overall mean waiting time among the 150 patients was 2.161 ± 2.686 hours. where all groups had P-values below 0.05; therefore, a non-parametric Kruskal–Wallis test was used to compare waiting time across the satisfaction categories.

Discussion

The primary objective of this study was to determine the level of patient satisfaction with the preoperative waiting time in surgical care unit. Table (1) that (43.33%) aged

between (13-27) years and the finding shows that Mean age of patient ($33.37 \pm \text{SD}14.63$). While (Charles Sathiya Oli S & Priscilla Roselyn Sam, 2025) shows that the Mean of age was ($49.93 \pm \text{SD}14.74$), and (Ataro et al., 2024) shows that 21.6% of patients aged between (25-34) years. The preoperative waiting time among patient in surgical care unit (Mean $2.161 \pm \text{SD} 2.686$), while (Saimi et al., 2024a) shows that the (Mean $25.78 \pm \text{SD} 3.327$). These findings show that, on the whole, patients evaluated the waiting time at the installation positively before undergoing surgical procedures (Saimi et al., 2024a). According patient satisfaction the study distributes that (26.67%) of patient was satisfied and (14.67%) dissatisfied. While conducted a study in Ethiopia shows that (79%) satisfied and (21%) of patient dissatisfied. And other study shows that (0.68%) of patients satisfied and (7.48%) was dissatisfied [12]. The difference may be attributed to several kinds of factors, such as variations in patient variables like sociodemographic characteristics, differences in hospital environments, possible gaps in preoperative education and care provided in the hospitals this study examined at, an increase in the number of patients, increased health-seeking behaviors among individuals, and higher patient expectations regarding the quality of services provided by the hospitals. Table (3) shows that there was a High significant association between preoperative time waiting and patient satisfaction ($P\text{-Value} < 0.001$) that's agree with study conducted by Saimi et al. [1]. Inefficiency and poor resource management lead to lengthy wait times [13]. In a competitive healthcare system, lengthy wait times cause patient discomfort, which may ultimately lead to a decrease in patronage [14]. It can also lead to decrease patient compliance with instructions given at the hospital [15]. Proactive administrative restructuring can further optimize these workflows [16].

4. Conclusion

This study conclude that the long preoperative wait times considerably reduce patient satisfaction in the surgical care unit. However, staff attentiveness and efficient communication significantly mitigate the detrimental effects of operational delays. To resolve this. In order to minimize avoidable delays, hospitals should implement real-time wait-time tracking systems and staggered patient admission models. Clinically, nursing staff should be trained to provide proactive, standardized status updates to reassure patients during mandatory waiting periods. Healthcare administrators and surgical units must adopt a dual approach focused on workflow efficiency and patient-centered care.

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