

**PATIENT SATISFACTION AND ASSOCIATED FACTORS WITH
AESTHETIC SURGERY SERVICES QUALITY AT
CAN THO UNIVERSITY OF MEDICINE AND PHARMACY HOSPITAL**

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Received: 01/6/2026

Reviewed: 03/6/2026

Accepted: 25/6/2026

ABSTRACT

Background: Improving service quality to enhance patient satisfaction is a key objective of healthcare institutions. **Objective:** This study aimed to assess patient satisfaction and identify factors associated with the quality of cosmetic surgery services at Can Tho University of Medicine and Pharmacy Hospital. **Materials and methods:** A cross-sectional descriptive study was conducted among 296 patients from January 2025 to April 2026. Patient satisfaction was measured using the SERVPERF service quality scale, consisting of 22 items rated on a 5-point Likert scale. Chi-square and Fisher's exact tests were employed to examine factors associated with patient satisfaction regarding service quality. Statistical significance was set at $p < 0.05$. **Results:** The overall mean satisfaction score was 3.83 out of 5, with an overall satisfaction rate of 84.8%. The highest-rated dimensions were tangibles (84.8%), responsiveness (83.8%), and assurance (80.7%). Educational level ($\chi^2 = 12.544$, $p = 0.014$) and monthly income ($\chi^2 = 17.791$, $p < 0.001$) were significantly associated with patient satisfaction. **Conclusions:** Patients reported a high level of satisfaction with the quality of cosmetic surgery services provided by the hospital. However, ethically serving vulnerable groups (lower income and education) demands equitable care, transparent financial communication, and patient-centered expectation management.

Keywords: Patient satisfaction, SERVPERF, Aesthetic surgery, Healthcare services quality.

I. INTRODUCTION

As society continues to develop, individuals increasingly seek aesthetic enhancements and improvements in physical appearance to boost self-confidence and overall quality of life. In this context, aesthetic surgery has evolved beyond mere medical intervention into a comprehensive service that integrates advanced technical expertise with the delivery of exceptional patient experiences. Consequently, patient satisfaction with the quality of aesthetic surgery services has become a critical determinant of the sustainable development of service providers in this field.

Previous studies have reported highly variable levels of patient satisfaction with aesthetic services, ranging from 46.9% to over 95%. Specifically, Zun *et al.* (2018), in a study of 386 patients at a clinic in Malaysia, found that only 46.3% of patients were satisfied with the services [1]. In Belgium, Marron Mendes *et al.* (2025) reported an overall satisfaction rate of 69% among 162 patients undergoing aesthetic procedures [2]. Within Vietnam, Huynh *et al.* (2023) documented exceptionally high satisfaction rates exceeding 95% across all SERVPERF dimensions among 274 clients at the Department of Plastic

Surgery and High-Tech Laser, Central Military Hospital 108 [3]. In contrast, Le *et al.* (2024) reported a significantly lower overall satisfaction rate of 49.3% among 268 patients at several hospitals in Can Tho [4]. Key factors identified as influencing satisfaction include professional competence, staff attitude, physical facilities, service costs, as well as patients' income, educational level, and prior experience with aesthetic services [1], [4].

Can Tho University of Medicine and Pharmacy Hospital is a reputable healthcare institution in the Mekong Delta region, recognized for its experienced medical team and modern facilities, which have attracted a large number of clients seeking aesthetic surgery services. However, to continuously improve service quality, it is essential to evaluate patient satisfaction and identify associated factors. Therefore, this study was conducted to assess the level of patient satisfaction and determine factors influencing the quality of aesthetic surgery services at Can Tho University of Medicine and Pharmacy Hospital.

II. MATERIALS AND METHODS

2.1. Participants

The study population consisted of patients aged 18 years and above who received services at the Center for Aesthetic Surgery and Skin Care, Can Tho University of Medicine and Pharmacy Hospital, between January 2025 and April 2026.

- **Inclusion criteria:** Included having used at least one aesthetic surgery or minimally invasive procedure at the Center and providing informed consent to participate.

- **Exclusion criteria:** Included inability to complete the questionnaire due to cognitive disorders or severe health conditions, or submission of incomplete data.

2.2. Research methods

- **Study Design:** a cross-sectional descriptive study.

- **Sample Size and Sampling Method:** A convenient sampling method was employed. The sample size was calculated using the formula for estimating a population proportion:

$$n = \frac{Z_{1-\alpha/2}^2 \times p(1-p)}{d^2}$$

Where:

$Z_{1-\alpha/2}$: Reliability coefficient. With $\alpha=0.05$, $Z_{1-\alpha/2}=1.96$.

p: Expected proportion of patient satisfaction with aesthetic services. According to Le *et al.* (2024), the satisfaction rate was 49.3% [4].

d: Allowable margin of error = 6%. The minimum sample size calculated was 267. Accounting for an estimated 10% non-response rate, the target sample size was 294. In reality, 296 patients were recruited and completed the survey.

- **Study Variables:** Collected demographics included age, gender, educational level, average monthly income, frequency of service utilization, and occupation. Patient satisfaction with service quality was evaluated using the SERVPERF scale developed by Cronin and Taylor (1992), which comprises 22 items categorized into five dimensions: Tangibles (4 items), Reliability (5 items), Responsiveness (4 items), Assurance (4 items), and Empathy (5 items). Each item was rated on a 5-point Likert scale [5]. The scale was translated into Vietnamese and validated for its reliability and validity by Duc Thanh N *et al.* (2023), demonstrating a high Cronbach's alpha of 0.94 [6]. The validity of the instrument was confirmed via Confirmatory Factor Analysis (CFA), where the healthcare service

quality construct exhibited acceptable goodness-of-fit indices: $\chi^2/df = 3.79$, Comparative Fit Index (CFI) = 0.85, Tucker-Lewis Index (TLI) = 0.83, and Root Mean Square Error of Approximation (RMSEA) = 0.08. Mean scores and standard deviations were calculated for individual items, specific dimensions, and the overall scale. Patients were classified as “satisfied” when the overall mean score was ≥ 3.41 [6].

- **Data Collection:** Data were collected through face-to-face interviews using a structured questionnaire. The questionnaire was piloted on 30 patients to evaluate its reliability. Cronbach’s Alpha coefficients for the five dimensions were 0.742 (Tangibles), 0.788 (Reliability), 0.807 (Responsiveness), 0.846 (Assurance), and 0.755 (Empathy), respectively. The overall Cronbach’s Alpha for the scale was 0.854, indicating high reliability and suitability for use in this study.

- **Data Analysis:** Data were entered and analyzed using SPSS software version 27. Descriptive statistics, including frequency (n), percentage (%), mean and standard deviation (SD), were used for both independent and dependent variables. The Chi-square test (χ^2) was applied to examine the association between patient satisfaction and general characteristics (statistical significance level at $p < 0.05$). Fisher’s exact test was used when more than 20% of cells had an expected frequency less than 5.

- **Ethical Approval:** This study was approved by the Ethics Committee in Biomedical Research of Can Tho University of Medicine and Pharmacy (Decision No. 24.092.GV/PCT-HĐĐĐ dated November 16, 2024). All participants were fully informed about the study objectives and provided voluntary written informed consent.

III. RESULTS

3.1. Patient’s demographics at the Plastic Surgery and Skincare Center of Can Tho University of Medicine and Pharmacy Hospital

Table 1. Patient’s demographics (n = 296)

Demographics		n (%)	Demographics		n (%)
Age (Mean±SD): 37.5±15.8	<40	181 (61.1)	Monthly Income (Mean±SD): 11.5±5.42	<5	20 (6.7)
	40-59	86 (29.1)		5-<10	113 (38.2)
	>59	29 (9.8)		≥ 10	163 (55.1)
Gender	Male	72 (24.3)	Service Utilization	First time	268 (90.5)
	Female	224 (75.7)		≥ 2 times	28 (9.5)
Educational Level	Below high school	32 (10.8)	Occupation	Business	60 (20.3)
	High school	73 (24.7)		Employees	94 (31.8)
	Intermediate/College	131 (44.3)		Housewife	80 (27)
	Bachelor's degree	40 (13.5)		Agriculture	33 (11.1)
	Postgraduate	20 (6.7)		Others	29 (9.8)

The majority of patients were under 40 years old, accounting for 61.1%, with a mean age of 37.5±15.8 years. Female patients constituted 75.7%, and those with an intermediate or college education level made up 44.3%. The average monthly income was 11.5±5.42 million VND, with the group earning ≥ 10 million VND/month representing 55.1%. Most

patients were employees (31.8%), and up to 90.5% were experiencing services at the Center for the first time.

3.2. Patient satisfaction levels regarding aesthetic surgery service quality

Table 2. Patient satisfaction scores across specific items

Items	Mean±SD
Tangibles	
The physical facilities, clinics, and service areas are clean and orderly.	3.91±0.82
Medical equipment and surgical/procedural instruments are modern and function well.	3.9±0.8
Staff members display a neat appearance, appropriate uniform, and professional demeanor.	3.97±0.86
Visual consultation materials (before-after photos, brochures, price lists) are clear and comprehensible.	3.87±0.81
Reliability	
Services are performed exactly as committed or consulted.	3.9±0.87
Procedures/surgeries are performed correctly the first time.	3.85±0.82
Medical records, clinical indications, and prescriptions are accurate and consistent.	3.82±0.85
Information regarding expected outcomes, risks, and recovery time is provided accurately and adequately.	3.87±0.85
Appointments and surgical schedules are strictly maintained with minimal rescheduling/postponements.	3.82±0.87
Responsiveness	
Waiting times for consultations or procedures are acceptable.	3.93±0.87
Staff members respond promptly and are willing to assist whenever needed.	3.87±0.83
Inquiries, complaints, or early complications are received and addressed in a timely manner.	3.86±0.86
Communication channels (telephone, Zalo, hotline) are easily accessible and provide quick responses.	3.85±0.81
Assurance	
Physicians and staff demonstrate solid knowledge and technical skills, instilling confidence.	3.73±0.83
I feel safe throughout the consultation, procedure/surgery, and recovery process.	3.77±0.74
Staff members are polite, respectful, and maintain the confidentiality of personal and medical information.	3.72±0.8
Costs and payment items are explained transparently and clearly.	3.8±0.8
Empathy	
Physicians and staff actively listen to and understand my unique aesthetic needs.	3.76±0.74
Pre-operative counseling is individualized, enabling me to make confident decisions.	3.74±0.82
Post-operative care instructions are clear and easy to follow at home.	3.77±0.76
Post-operative/post-procedural follow-up is attentive, with easy contact options in case of concerns.	3.73±0.8
Working hours and appointment schedules are flexible and convenient for me.	3.87±0.83

Most patients reported a relatively high level of service satisfaction, with scores across the 22 items ranging from 3.72 to 3.97 out of a 5-point scale.

Additionally, Figure 1 showed the dimensions of Tangibles, Reliability, Responsiveness, Assurance, and Empathy yielded satisfaction scores of 3.91, 3.85, 3.87, 3.75, and 3.77, with corresponding satisfaction rates of 84.8%, 70.6%, 83.8%, 80.7%, and 70.3%. Overall, the general satisfaction level reached a high mean score of 3.83 points, with an overall satisfaction rate of 84.8%.

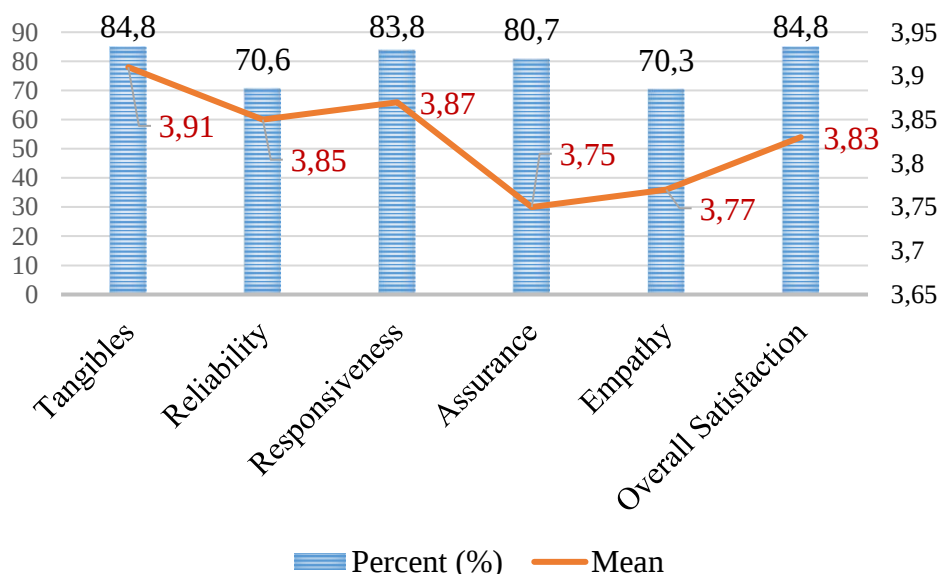


Figure 1. Patient satisfaction levels regarding the provided aesthetic surgery service quality

3.3. Factors associated with general patient satisfaction regarding the provided service quality

Table 3. Association between overall satisfaction and patient's demographics

Factors		Overall satisfaction		χ^2	p
		Satisfied n (%)	Dissatisfied n (%)		
Age group	<40 years old	152 (84)	29 (16)	5.866	0.053
	40-59 years old	78 (90.7)	8 (9.3)		
	>59 years old	21 (72.4)	8 (27.6)		
Gender	Male	60 (83.3)	12 (16.7)	0.158	0.691
	Female	191 (85.3)	33 (14.7)		
Educational Level	Below High School	23 (71.9)	9 (28.1)	12.554	0.014
	High School	58 (79.5)	15 (20.5)		
	Intermediate/College	117 (89.3)	14 (10.7)		
	Bachelor's degree	38 (95)	2 (5)		
	Postgraduate	15 (75)	5 (25)		
Monthly Income	< 5 million VND	14 (70)	6 (30)	17.791	<0.001
	5-<10 million VND	86 (76.1)	27 (23.9)		
	≥10 million VND	151 (92.6)	12 (7.4)		
Service Utilization	First time	226 (84.3)	42 (15.7)	0.483	0.781*
	≥2 times	25 (89.3)	3 (10.7)		

Factors		Overall satisfaction		χ^2	p
		Satisfied n (%)	Dissatisfied n (%)		
Occupation	Business	54 (90)	6 (10)	4.217	0.377
	Employees	81 (86.2)	13 (13.8)		
	Housewife	65 (81.3)	15 (18.7)		
	Agriculture	29 (87.9)	4 (12.1)		
	Others	22 (75.9)	7 (24.1)		

*Fisher's Exact Test

Patients with an educational level below high school and those with a monthly income below 5 million VND/month exhibited significantly lower satisfaction rates compared to the other groups, with p-values of 0.014 and < 0.001 , respectively.

Conversely, no statistically significant associations were found between age, gender, frequency of service utilization, or occupation and patient satisfaction regarding the service quality.

IV. DISCUSSION

4.1. Patient Satisfaction Regarding Aesthetic Surgery Service Quality at Can Tho University of Medicine and Pharmacy Hospital

The findings indicated a relatively high level of overall satisfaction, with a mean score of 3.83/5 and a satisfaction rate of 84.8%. Among the five dimensions, “Tangibles” received the highest score (3.91), followed by “Responsiveness” (3.87) and “Reliability” (3.85). In contrast, lower scores were observed for “Assurance” (3.75) and “Empathy” (3.77). These results reflect a commendable overall service quality, particularly regarding physical infrastructure and the capacity to meet patients' practical demands.

The high satisfaction rate in this study is significantly higher than that reported by Le et al (2024) across various hospitals in Can Tho, which recorded only 49.3% of patients being satisfied with aesthetic services [4]. This discrepancy may stem from variations in sample characteristics and the institutional specificities of each hospital. Conversely, our findings are slightly lower than those of Huynh *et al.* (2023) at the Aesthetic Surgery and High-Tech Laser Unit of 108 Military Central Hospital, where all dimensions of the satisfaction scale scored above 4.7 points [3].

4.2. Factors Associated with Patient Satisfaction Regarding Service Quality

The study found no statistically significant association between patient satisfaction and age group ($p = 0.053$), gender ($p = 0.691$), frequency of service utilization ($p = 0.781$), or occupation ($p = 0.377$). This outcome aligns with the study by Marron Mendes (2025), which demonstrated that fundamental demographic characteristics, such as age, gender, and history of aesthetic surgery, did not influence post-operative satisfaction [2].

In contrast, educational level and monthly income were significantly associated with satisfaction. Patients with a bachelor's degree or higher and a monthly income of ≥ 10 million VND exhibited a markedly higher satisfaction rate ($p < 0.05$). This finding contradicts the study by Zun (2018) at 1 Malaysia clinic, where treatment objectives targeted low-income populations [1]. In our study, a plausible explanation is that highly educated patients often harbor more realistic expectations, are more receptive to counseling information, and readily accept treatment outcomes. Conversely, those with lower educational levels may

demand more detailed information and extensive support. From a medical ethics perspective, this highlights the necessity for healthcare providers to engage in patient-centered communication, ensuring that medical information is accessible and that realistic expectations are firmly established prior to surgery. Furthermore, patients earning less than 5 million VND/month reported the lowest satisfaction rate ($p < 0.001$). This could be attributed to the fact that high-income groups are less sensitive to service costs and possess the financial capacity to easily accommodate supplementary services if required. In contrast, lower-income patients often endure significant financial strain to afford cosmetic procedures, which can inadvertently inflate their expectations regarding the outcomes. Ethically serving this vulnerable demographic demands transparent financial counseling to prevent hidden costs, along with a commitment to providing equitable, high-quality care regardless of the patient's spending capacity.

4.3. Limitations of the Study

Although this study successfully evaluated the level of patient satisfaction and identified several associated factors, certain limitations must be acknowledged. First, the cross-sectional descriptive design utilizing a convenience sample restricts the generalizability of the findings and introduces potential selection bias. Second, numerous other factors potentially associated with satisfaction, such as the specific type of cosmetic surgery, were not investigated, which limits the ability to formulate highly targeted recommendations. Consequently, future studies should employ more robust methodologies to overcome these existing limitations.

V. CONCLUSION

Patients highly appreciated the aesthetic surgery service quality provided by the hospital across all evaluated dimensions. To further enhance patient satisfaction, the hospital should continuously improve the two dimensions of “Assurance” and “Empathy” through communication skills training, personalized counselling, and stringent post-operative follow-up. Additionally, guided by medical ethics, appropriate communication strategies and transparent financial counselling should be implemented to effectively manage the expectations of vulnerable patient groups with lower income and educational levels, ensuring equitable care for all.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the financial support provided by Can Tho University of Medicine and Pharmacy for this research under Decision No. 4624/QD-DHYDCT dated December 18, 2024, issued by the Rector of Can Tho University of Medicine and Pharmacy.

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