



RESEARCH

Gender and role as determining factors in patient satisfaction: An evaluation of healthcare services provided at a Medico-social health center

Hasta memnuniyetinde cinsiyet ve rolün belirleyici etkenler olarak incelenmesi: Mediko-sosyal sağlık merkezinde sunulan sağlık hizmetlerinin değerlendirilmesi

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Abstract

Purpose: This study aims to evaluate patient satisfaction among students and staff receiving healthcare at Çukurova University Medico-Social Health Center, as well as to assess their awareness of services, usage habits, problems encountered, and opinions regarding the adequacy of the services provided.

Materials and Methods: A total of 1,296 patients (996 students, 300 staff) between 2022 and 2024 were included in this study. Data were obtained via a 21-question survey. Additionally, data were collected through face-to-face interviews.

Results: Of the participants, 76.9% were students and 23.1% were staff. Female participants accounted for 62% of the total. The most utilized healthcare services were Authorized Family Medicine Services and Internal Medicine Outpatient Services. 97% of participants reported no difficulty accessing healthcare services. Statistically significant differences were observed between students and staff, and between male and female patients, in satisfaction with waiting times, physical conditions, staff courtesy, and service adequacy. Staff and male patients reported higher satisfaction. Recommendations included increasing outpatient service diversity and extending service hours.

Conclusion: The findings of this study indicate a high level of overall satisfaction with the services provided by the Çukurova University Medico-Social Health Center. Also, significant differences in satisfaction levels were observed among genders and between student and staff groups.

Keywords: medico-social health center, patient satisfaction, healthcare services

Öz

Amaç: Bu çalışma, Çukurova Üniversitesi Mediko-Sosyal Sağlık Merkezi'nde sağlık hizmeti alan öğrenci ve personelin memnuniyet düzeyini, hizmet farkındalıklarını, kullanım alışkanlıklarını, karşılaşıkları sorunları ve sunulan hizmetlerin yeterliliğine ilişkin görüşlerini değerlendirmeyi amaçlamaktadır.

Gereç ve Yöntem: Bu çalışmaya 2022 ile 2024 yılları arasında sağlık hizmeti alan toplam 1,296 hasta (996 öğrenci, 300 personel) dahil edilmiştir. Veriler, 21 sorudan oluşan bir anket aracılığıyla elde edilmiştir. Ayrıca, veriler yüz yüze görüşmeler yoluyla toplanmıştır.

Bulgular: Katılımcıların %76,9'u öğrenci, %23,1'i personeldi. Katılımcıların %62'sini kadınlar oluşturmaktaydı. En çok başvurulan sağlık hizmetleri dahiliye ve aile hekimliği bölümleri olmuştur. Katılımcıların %97'si sağlık hizmetlerine erişimde herhangi bir zorluk yaşamadığını belirtmiştir. Bekleme süresi, fiziksel koşullar, personelin nazikliği ve hizmetin yeterliliği konularında öğrenci ve personel ile kadın ve erkek hastalar arasında istatistiksel olarak anlamlı farklar gözlemlenmiştir. Erkek hastalar ve personel grubu daha yüksek memnuniyet bildirmiştir. Öneriler arasında poliklinik çeşitliliğinin artırılması ve hizmet saatlerinin uzatılması yer almaktadır.

Sonuç: Çalışmanın bulguları, Çukurova Üniversitesi Mediko-Sosyal Sağlık Merkezi'nden genel olarak yüksek düzeyde memnuniyet olduğunu ortaya koymaktadır. Ayrıca, memnuniyet düzeylerinde cinsiyet, öğrenci ve personel grupları arasında anlamlı farklılıklar gözlemlenmiştir.

Anahtar kelimeler: mediko-sosyal sağlık merkezi, hasta memnuniyeti, sağlık hizmetleri

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INTRODUCTION

Access to the highest attainable standard of healthcare is one of the fundamental human rights of every individual¹. The regulation for the implementation of Medico-Social Health, Culture, and Sports Affairs Departments at higher education institutions was published in the Official Gazette on February 3, 1984, under issue number 18301, and thereby came into force. The establishment and scope described in Article 2 of the regulation define the Medico-Social, Cultural, and Sports Affairs Department as “a healthcare institution for the entire population served by the university; a service unit that meets students’ needs in areas such as social and cultural solidarity, guidance, and sports; and at the same time, an application department where practices and research are conducted in these fields to support education and training”. Article 4 of the regulation defines the purpose of this regulation as follows: “The aim of this regulation is to protect the physical and mental health of students, treat or ensure the treatment of those who are ill, and offer services that will improve both their health and social conditions. These include accommodation, nutrition, study, rest, and leisure activities according to their fields of interest, helping them develop new interests, and providing opportunities for the healthy development of their talents and personalities. It also aims to raise individuals who take care of their mental and physical health, and to instill habits of working, resting, and having fun in an orderly and disciplined manner.”².

According to Circular No. 2019/10 on the Stratification of Healthcare Service Providers, university Medico-Social Health Centers are classified among the primary healthcare institutions that provide first-level healthcare services to students, university staff, retirees, and their dependents^{3,4}. The Medico-Social Health Center serves as the first point of contact for staff and their families and provides “family medicine services”. It is also defined as “a research and educational institution that conducts or facilitates research and practice aimed at fulfilling this purpose.” According to Article 10 of regulation, the main services to be provided at the Medico-Social Health Center include: healthcare services, psychological counseling and guidance services, cultural services, and sports services^{4,5}.

Measurements that assess the quality and effectiveness of healthcare services aim to improve the service itself. Patient satisfaction is defined as “a

key indicator of care quality, reflecting how well the patient’s values and expectations are met, with the patient being the primary authority.”⁶. Patient satisfaction is a function of expected quality versus perceived quality. Accordingly, a patient has certain expectations before receiving a service and forms perceptions based on the experience after the service is delivered. The patient then determines their level of satisfaction by comparing the expected quality with the perceived quality⁷. One of the key concepts used to assess the quality, efficiency, effectiveness, and overall performance of healthcare services is patient satisfaction. In recent times, healthcare institutions have begun to operate based on patients’ expectations, needs, and satisfaction outcomes regarding the services they receive. Consequently, with the growing emphasis on patient-centered care in healthcare delivery, patient satisfaction and studies evaluating patient satisfaction have gained significant importance⁸.

Previous research on patient satisfaction in university settings has predominantly focused on student experiences, emphasizing factors such as waiting times, quality of care, and accessibility of services⁹⁻¹¹. However, there remains a gap in the literature regarding the experiences of both students and staff within campus-based health centers. Furthermore, most existing studies have been without incorporating comparative assessments between different groups. Our study addresses these gaps by evaluating satisfaction among both students and staff at Çukurova University’s Medico-Social Health Center, examining factors such as service accessibility, staff courtesy, cleanliness, and the adequacy of information provided.

The Medico-Social Health Center of Çukurova University, operating under the Directorate of Health, Culture, and Sports, was established in 1982. By complying with the new regulations issued by the Ministry of Health and following an official application, the Çukurova University Medico-Social Health Center received its License Certificate and Operating Permit on June 4, 2024. This milestone officially institutionalized the Çukurova University Medico-Social Health Center. Notably, Çukurova University has become the second university in the country to obtain such licensing for a Medico-Social Health Center. Providing services for nearly 40 years, the Çukurova University Medico-Social Health Center has been influenced by recent changes in the national healthcare system. These changes have

brought about variations in both the professionals employed and the diversity of services offered. Reorganized to align with the evolving healthcare structure, the center offers access to primary healthcare services. In this context, the following services are currently available at our center; Authorized Family Medicine Services, Dermatology Outpatient Services, Internal Medicine Outpatient Services, Nutrition and Dietetics Services, Nursing and Vaccination Services. In addition to providing primary healthcare services, the Çukurova University Medico-Social Health Center also offers Oral and Dental Health Outpatient Services, Psychiatry Outpatient Services, and Psychological Counseling and Guidance Services. The Çukurova University Medico-Social Health Center is a outpatient clinic located within the campus. Its current staff includes; 3 authorized family physicians, 1 institutional physician, 1 dermatologist, 1 internal medicine specialist, 2 dentists, 1 psychiatrist, 1 psychological counselor, 1 psychologist, 4 nurses, 1 dietitian. The difference between Çukurova University Medico-Social Health Center and other Medico-Social Health Centers is that the doctors (institution physicians) are permanently staffed at Çukurova University Medico-Social Health Center. Thanks to this, patients can directly visit the Medico-Social Health Center for a medical examination. In most other Medico-Social Health Centers, patients are first referred to the university hospital.

In 1981, in line with the plans and programs implemented by the Council of Higher Education in Turkey's higher education institutions, it was decided to establish Medico-Social Health Centers and to take the necessary measures to ensure that students could benefit from these centers in the best possible way. With this regulation, the provision of services considered under "Personal Services" by the Department of Medico-Social, Health, Culture, and Sports Affairs to be established in every university was made a legal obligation pursuant to Article 47 of the Higher Education Law No. 2547, as amended by Law No. 2880. The regulation issued in accordance with this law stipulates the provision of healthcare services as well as psychological counseling and guidance services in Medico-Social Health Centers. In line with this legal framework, Çukurova University Medico-Social Health Center aims to deliver these services in the best possible way¹².

The primary aim of this study is to assess the satisfaction among students and staff receiving

services at the Çukurova University Medico-Social Health Center. In addition, examining patients' level of knowledge about the center, their patterns of service use, the problems they encounter, and their opinions regarding the adequacy of the services provided. By analyzing these opinions in detail, this study contributes to improving the quality of healthcare services offered within the university.

MATERIALS AND METHOD

Sample and procedure

Çukurova University comprises 19 faculties, 11 vocational schools, 1 conservatory, 4 institutes, and 1 research and application hospital. As of the 2024–2025 academic year, Çukurova University has 48,173 students enrolled in associate, undergraduate, graduate, and doctoral programs. The university employs 2,100 academic staff and 2,581 administrative staff. This study is a retrospective analysis conducted between 2022 and 2024 to investigate the satisfaction levels of students and staff who visited the Çukurova University Medico-Social Health Center for various reasons. This research was approved by the Çukurova University Non-Invasive Clinical Research Ethics Committee, and all ethical guidelines were followed throughout the study (2025/155-15).

All participants were informed about the purpose and procedures of the study and provided written informed consent prior to participation. Participation was entirely voluntary, and participants were assured of the confidentiality and anonymity of their responses. University students and staff were selected as the target population. The inclusion criteria for this study were voluntary participation and being employed as academic or administrative staff or being an enrolled student at Çukurova University during the 2022–2024 academic years, while those who did not meet these criteria were excluded from the study. University students were considered an important and appropriate patient group, as they are capable of both self-assessment and responding to the provided a survey. Additionally, the survey applied to students and staff aimed to assess the satisfaction levels of both male and female patients attending outpatient clinics. All survey-related procedures were carried out by all authors. Furthermore, the data were obtained from medical-social records, and all file security procedures were conducted in accordance with the protocols established by the relevant institution.

Data collection tools

The opinions of students and staff regarding the services they received were collected using a survey consisting of 21 questions. The 21-item questionnaire was developed as an original type questionnaire, created by incorporating additional items specific to the Medico-Social Health Center of Cukurova University into questions adapted from various questionnaires identified through a review of the relevant literature.

The study was conducted with 1296 participants, and the data regarding the healthcare services they received, have been gathered through face-to-face assessments with patients who visited Cukurova University Medico Social Health Center. The survey included questions about the participants' gender, how they scheduled their appointments, which outpatient clinic services they used, duration of examination, general cleanliness of the center, their level of knowledge about the center, their satisfaction, problems encountered at the center, whether they follow the center's website, their accessibility to the center's social media accounts, and their suggestions regarding the services provided by the center. To ensure reliability of the answers, the patients' names and last names were not included in the survey. Patients rated 11 survey items (Questions 10–20) on a five-point Likert-type scale, ranging from 1 = strongly disagree to 5 = strongly agree. The survey collected additional demographic and service-related data.

Statistical analysis

Data were analyzed using IBM SPSS Statistics for Windows, Version 22.0 (IBM Corp., Armonk, NY, USA). First, the psychometric properties of the 11-item satisfaction scale were assessed. The internal

consistency of the 11-item Likert-type scale used to measure patient satisfaction was assessed using Cronbach's alpha coefficient, which was found to be 0.950, indicating high reliability. The construct validity was examined through an Exploratory Factor Analysis (EFA) using Principal Component Analysis with a Direct Oblimin rotation. The analysis revealed a single factor explaining 68.87% of the total variance, supporting a unidimensional structure. The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity were checked to ensure the data's suitability for factor analysis.

Descriptive statistics (frequencies, percentages) summarized demographic and categorical data. To examine the relationships between satisfaction items, Spearman's rank correlation coefficient (ρ) was calculated. To compare satisfaction scores between two independent groups (students vs. staff; male vs. female), the non-parametric Mann-Whitney U test was employed. A value of $p < 0.05$ was considered statistically significant. To account for multiple comparisons across the 11 items, a Bonferroni correction was applied, and the threshold for statistical significance was adjusted to $p < 0.0045$. For all significant comparisons, Rosenthal's r was calculated as a measure of effect size. A post-hoc power analysis was performed for the Mann-Whitney U tests comparing students and staff, as well as female and male participants ($N = 1296$).

RESULTS

A total of 996 students (76.9%) participated in the study, while 300 staff members (23.1%) also participated. The number of female patients is 804 (62%), while the number of male patients is 492 (38%). Detailed data is given in Table1.

Table 1. Distribution of participants by group (q1) and gender (q2).

q2 q1	Female (n)	Male (n)	Total (n)	p
Students (n)	666 (66.9%)	330 (33.1%)	996 (76.9%)	.000
Staff (n)	138 (46.0%)	162 (54.0%)	300 (23.1%)	
Total (n)	804 (62.0%)	492 (38.0%)	1296 (100.0%)	

The frequencies of questions 3, 4, 5, 6, 7, and 8 are given in Table 2. First, there are four methods by which patients can access health services at the Medico-Social Health Center. The majority (1,176 patients) scheduled appointments by visiting the center directly, while no patients used email.

Secondly, patients were asked about the healthcare service departments they had utilized. The most frequently utilized services were Internal Medicine (n=363) and Authorized Family Physician Services (n=339), whereas Nutrition and Dietetics (n=30) and Psychological Counseling (n=51) were least used.

Thirdly, patients were asked how they became aware of the services provided at the center. Nearly half of patient (44.4%) learned about the center through friends. Finally, question 6, 'Have you experienced any difficulties or challenges in accessing healthcare services?', was asked to patients. These findings provide evidence supporting the accessibility of healthcare services offered by the Medico-Social Health Center to both students and staff (97%). Furthermore, question 7 ve 8 asked "Do you follow the website and Instagram page of the Medico-Social

Health Center?". Digital engagement was low, with 76.6% not following the website and 85.9% not following Instagram, suggesting a preference for traditional information channels. Overall, the table gives an idea about the patients' knowledge and utilization of the Medico-Social Health Center. However, as indicated by the frequencies, there are varying responses among patients. These data can be used to identify Medico-Social Health Center's areas for improvement.

Table 2. Health center service utilization and information acquisition among students and staff.

Variables		Students (n)	Staff (n)	Total (n)	p
Appointment Scheduling (q3)	Telephone	36 (3.6%)	69 (23.0%)	105 (8.1%)	<0.001
	Online	12 (1.2%)	3 (1.0%)	15 (1.2%)	
	E-mail	0 (0%)	0 (0%)	0 (0%)	
	Directly Visiting	948 (95.2%)	228 (76.0%)	1176 (90.7%)	
Department (q4)	Family Physician Services	258 (25.9%)	81 (27.0%)	339 (26.2%)	<0.001
	Internal Medicine Services	276 (27.7%)	87 (29.0%)	363 (28.0%)	
	Dermatology Services	108 (10.8%)	39 (13.0%)	147 (11.3%)	
	Psychological Services	30 (3.0%)	21 (7.0%)	51 (3.9%)	
	Nutrition and Dietetics Services	21 (2.1%)	12 (4.0%)	33 (2.5%)	
	Oral and Dental Health Services	81 (8.1%)	30 (10.0%)	111 (8.6%)	
	Nursing Services	93 (9.3%)	15 (5.0%)	108 (8.3%)	
	Vaccination Services	129 (13.0%)	15 (5.0%)	144 (11.1%)	
Learning style (q5)	Poster	57 (5.7%)	36 (12.0%)	93 (7.2%)	<0.001
	Website/Social Media	42 (4.2%)	42 (14.0%)	84 (6.5%)	
	Friends	498 (50.0%)	78 (26.0%)	576 (44.4%)	
	Other	399 (40.1%)	144 (48.0%)	543 (41.9%)	
Difficulties or Challenges (q6)	Yes	36 (3.6%)	3 (1.0%)	39 (3.0%)	0.020
	No	960 (96.4%)	297 (99.0%)	1257 (97.0%)	
Following the Website (q7)	Yes	174 (17.5%)	129 (43.0%)	303 (23.4%)	<0.001
	No	822 (82.5%)	171 (57.0%)	993 (76.6%)	
Following Instagram page (q8)	Yes	108 (10.8%)	75 (25.0%)	183 (14.1%)	<0.001
	No	888 (89.2%)	225 (75.0%)	1113 (85.9%)	

As shown in Table III, most patients (84.7%) were satisfied with waiting time (q10) and 57.6% reporting sufficient examination duration (q12). Similarly, adequately informed about disease and treatment was

rated positively, with 57.9% feeling adequately informed by their doctor (q13) and 90.9% by the nurse (q17). Satisfaction with physical conditions was moderate. At least 40.0% of patients found the

examination room and waiting room adequate (q11, q20). Easy access to healthcare professionals was rated positively, with a substantial majority agreeing or strongly agreeing with this statement (q18). Staff courtesy and front desk guidance were positively

rated, with most patients expressing agreement or strong agreement (q14, q19). Cleanliness and fulfillment of service expectations were very high satisfaction, with over 95.0% of participants agreeing or strongly agreeing (q15, q16).

Table 3. Frequencies of responses to the 11-item patient satisfaction scale using a 5-point likert scale (q10–q20).

Frequencies (%Percentage)	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
The time I waited to be examined was appropriate (q10).	30 (2.3%)	72 (5.6%)	96 (7.4%)	468 (36.1%)	630 (48.6%)
The physical conditions of the examination room were adequate (q11).	27 (2.1%)	36 (2.8%)	78 (6.0%)	588 (45.4%)	567 (43.8%)
The time my doctor gave me was enough (q12).	24 (1.9%)	9 (0.7%)	33 (2.5%)	483 (37.3%)	747 (57.6%)
I was adequately informed about my disease and treatment by my doctor (q13).	18 (1.4%)	6 (0.5%)	51 (3.9%)	471 (36.3%)	750 (57.9%)
The behavior of the Medico-Social Health Center staff towards me was courteous (q14).	18 (1.4%)	6 (0.5%)	6 (0.5%)	336 (25.9%)	930 (71.8%)
Medico-Social Health Center was generally clean (q15).	15 (1.2%)	6 (0.5%)	24 (1.9%)	444 (34.3%)	807 (62.3%)
The services provided at the Medico-Social Health Center met my expectations (q16).	12 (0.9%)	18 (1.4%)	30 (2.3%)	489 (37.7%)	747 (57.6%)
The nurses gave me enough information about my treatment and care (q17).	18 (1.4%)	21 (1.6%)	78 (6.0%)	441 (34.0%)	738 (56.9%)
I was able to easily reach healthcare professional when needed (q18).	15 (1.2%)	9 (0.7%)	45 (3.5%)	498 (38.4%)	729 (56.3%)
The counseling and guidance services of the Medico-Social Health Center were sufficient (q19).	15 (1.2%)	6 (0.5%)	15 (1.2%)	432 (33.3%)	828 (63.9%)
The physical conditions of the waiting room were sufficient (q20).	15 (1.2%)	9 (0.7%)	36 (2.8%)	519 (40.0%)	717 (55.3%)

Additionally, Bonferroni correction was applied to adjust for multiple comparisons, resulting in a revised significance threshold of $p < 0.0045$. Accordingly, only results with p -values below this threshold were considered statistically significant. A comparison of satisfaction levels between students and staff revealed statistically significant differences in q10, q11, q14, q15, q16, q17, q18, q19, and q20. In particular, staff reported significantly higher satisfaction than students regarding the physical conditions of the examination rooms ($p < 0.001$, $r = 0.13$, q, q11), staff courtesy ($p < 0.001$, $r = 0.11$, q14), cleanliness ($p < 0.001$, $r = 0.15$, q15), the adequacy of information provided by nurses ($p < 0.001$, $r = 0.16$, q17), front desk guidance ($p < 0.001$, $r = 0.11$, q19), and the physical conditions of the waiting room ($p < 0.001$, $r = 0.15$, q20). In contrast, some variables that were initially significant at the conventional $p < 0.05$ level, such as satisfaction with waiting times (previously p

$= 0.006$, q10) and fulfillment of service expectations (previously $p = 0.007$, q16), did not meet the adjusted significance threshold and were therefore deemed non-significant after correction. However, no significant differences were found between students and staff regarding examination duration ($p > 0.591$, q12) and the adequacy of doctors' information provision ($p > 0.070$, q13). These findings suggest that while staff generally more satisfaction, both groups share similar experiences concerning examination length and doctor communication.

When all these questions were examined according to gender, male participants reported significantly higher levels of satisfaction asked questions when compared to female participants. These differences were statistically significant in questions such as waiting time ($p < 0.001$, $r = 0.17$, q10), physical conditions of the examination room ($p < 0.001$, $r =$

0.14, q11), examination duration ($p < 0.001$, $r = 0.17$, q12), the adequacy of doctors' information provision ($p = 0.003$, $r = 0.08$, q13), staff courtesy ($p = 0.002$, $r = 0.09$, q14), fulfillment of service expectations ($p < 0.001$, $r = 0.15$, q16), accessibility ($p < 0.001$, $r = 0.17$, q18), front desk guidance ($p < 0.001$, $r = 0.19$, q19), and the physical conditions of the waiting room ($p < 0.001$, $r = 0.15$, q20). However, the adequacy of nurses' information provision (previously $p = 0.019$, q17) was no longer statistically significant after applying the Bonferroni-adjusted threshold. Overall, these findings suggest a potential gender-based difference in the perception or expectations of services at the Medico-Social Health Center.

A post-hoc power analysis was performed for the Mann-Whitney U tests comparing students and staff, as well as female and male participants ($N = 1296$). Effect sizes (r) ranged from 0.015 to 0.165 for student-staff comparisons and from 0.065 to 0.189 for gender comparisons. Although generally small, the large sample size provided sufficient power (>0.80) to detect even minor differences. For instance, significant differences between students and staff were observed in physical conditions of examination rooms ($r = 0.134$) and cleanliness ($r = 0.155$), while for gender, notable differences were found in waiting time ($r = 0.168$), staff guidance at the front desk ($r = 0.189$), and physical conditions of examination rooms ($r = 0.137$). Non-significant comparisons corresponded to negligible effect sizes, indicating that trivial differences, rather than insufficient power, accounted for non-significant results. These analyses confirm that the sample size was adequate to support the reliability of the study findings.

In the last part of the questionnaire, students and staff were asked to provide feedback and recommendations regarding their experiences at the Medico-Social Health Center. It was emphasized that the number and diversity of outpatient clinics should be increased. In particular, there was a demand for the establishment of new units in specialized fields such as ophthalmology, otorhinolaryngology, cardiology, pediatrics, and orthopedics. It was also suggested that the number of days internal medicine and dermatology clinics operate is currently insufficient, and that increasing the frequency of these services would be beneficial. In the field of Oral and Dental Health, the inclusion of diagnostic services such as dental radiography was considered necessary. The presence of a pharmacy within the

Medico-Social Health Center was seen as important for improving access to prescribed medications. Additionally, participants recommended extending the working hours of departments that only operate in the mornings.

Moreover, significant positive correlations were observed between accessibility to healthcare staff and front desk guidance ($\rho = 0.813$, $p < 0.001$), suggesting that well-organized patient guidance is closely linked to ease of access. Duration of the examination was strongly and positively correlated with adequacy of doctors' information provision ($\rho = 0.771$, $p < 0.001$), indicating that extended interactions promote better patient understanding. A strong positive correlation was found between front desk guidance and physical conditions of the waiting room ($\rho = 0.777$, $p < 0.001$), implying that effective orientation contributes to perceived comfort. Also, patients' perceptions of cleanliness and service expectations were positively correlated ($\rho = 0.722$, $p < 0.001$), reflecting that hygienic conditions play a key role in shaping satisfaction levels.

DISCUSSION

Patient satisfaction is a performance measurement tool that reflects the extent to which patients' needs and expectations are met by the healthcare services they receive¹³. Determining the level of patient satisfaction is important for improving service quality and offering more qualified care aligned with patient expectations^{6,14}. According to findings from studies conducted to assess the expectations and satisfaction levels of students benefiting from Medico-Social Health Centers in our country, it has been reported that identifying student satisfaction and recording developments in this area will lead to an improvement in the quality of services provided¹⁵.

The factors affecting patient satisfaction can be grouped into three categories: patient-related characteristics, healthcare service provider-related characteristics, and institutional characteristics. Firstly, patient-related characteristics include elements such as the patient's gender, the type of illness, etc. These individual differences are closely linked to the level of satisfaction with healthcare services. Secondly, healthcare service provider-related characteristics refer to the qualifications of healthcare staff, as well as their attentiveness and courtesy. Thirdly, institutional characteristics involve the physical aspects of the healthcare center, such as

lighting, heating, and waiting rooms^{8,16-19}. Among the factors determining healthcare service quality, emphasis is placed not only on the quality of services provided but also on the perceived quality of those services²⁰. In studies on patient satisfaction, various dimensions such as satisfaction with healthcare staff, the staff's politeness, provision of sufficient information, and the general cleanliness of the center are commonly examined^{8,19,20}. A review of the literature shows that doctor and nurse behavior, cleanliness of the health center, ease of access to examination rooms, and examination duration are the most influential factors on patient satisfaction^{16,21}.

According to the National Center for Health Statistics, the ideal average examination duration should be approximately 17.4 minutes²². The year of 2003 National Ambulatory Medical Care Survey (NAMCS) reports an average of 18.7 minutes. However, a study at Akdeniz University Medico-Social Health Center revealed that examination durations per patient range between 6 to 8 minutes²³. Similarly, it has been officially stated that the average examination duration at Çukurova University Medico-Social Health Center is also below these national averages by patients. Unfortunately, this indicates that the conditions at Çukurova University's Medico-Social Health Center fall short of the ideal standard.

In a study at Hacettepe University, 69.3% of patients reported being generally satisfied with the services they received. Additionally, 74.5% found waiting times sufficient, 82.3% reported easy access to services, 79.2% were satisfied with cleanliness, 83.9% felt doctors were attentive, while only 25.5% rated staff politeness as sufficient. However, 8.9% of patients expressed a desire for the staff to be more attentive and respectful^{15,25}. According to our analysis, overall satisfaction levels in our study were notably high, showing that the Medico-Social Health Center generally meets patients' expectations.

Although studies on waiting times in Turkey are limited, waiting time is known to affect patient satisfaction^{26,27}. In studies conducted at Pamukkale University²⁴ and by Edirne et al.²⁸, most patients reported excessively long waiting times. While similar findings were observed in our study, no significant correlation was found between longer waiting times and overall patient satisfaction. Similarly, a study at Toward University Health Center's found that students' waiting time did not significantly affect satisfaction¹¹.

In line with this, our factor analysis revealed that the 11 satisfaction items load onto a single, robust factor, suggesting that patients at this center perceive service quality as a holistic and unidimensional construct (Questions 10 to 20 listed in Table III). This implies that a negative experience in one area (e.g., waiting time and physical conditions of the examination room) could potentially impact the overall perception of care, rather than being isolated to a specific domain.

According to research conducted at Düzce University, the most frequently reported issues by students were waiting times (27.3%) and lack of attention from doctors (4.1%). Çukurova University, the most common issue reported by both students and staff was also waiting times and physical conditions of the examination rooms. In contrast, dissatisfaction with doctors' attentiveness was reported by only 1.9% of participants, a considerably lower figure compared to Düzce University. Key factors positively influencing overall patient satisfaction include doctors' attentiveness, the cleanliness of the center, the politeness of staff, and the provision of adequate information by doctors and nurses. Additionally, Liu et al., in their study conducted in the United States, students are more likely to use healthcare services that are easily accessible on campus, offering quick appointments and minimal wait times. This is especially true for services such as general medical care and preventive screenings, where students seek to address ongoing health needs in a timely manner³⁰.

At Hacettepe University Campus Health Center, patients have requested the addition of ophthalmology and gynecology outpatient services¹⁵. At Düzce University's Medico-Social Health Center, students most frequently expressed the need for otorhinolaryngology and internal medicine specialists²⁵. Similarly, patients at Çukurova University Medico-Social Health Center have requested services in ophthalmology, otorhinolaryngology, cardiology, pediatrics, and orthopedics. Nevertheless, In the United States, university campus health centers offer comprehensive healthcare services. Beyond emergency and acute care, they commonly provide primary care, immunizations, gynecological and sexual health services, nutritional guidance, and mental health support. Certain health centers also extend specialized care, such as dermatology, sports medicine, eating disorder treatment, and gender-

affirming services¹⁰. Therefore, the range of services at Çukurova University's Medico-Social Health Center should be further diversified, and their accessibility enhanced to better meet the needs of student and staff. Çukurova University's Medico-Social Health Center performs simple procedures, such as intramuscular injections, wound care, and blood pressure monitoring. Also, more advanced procedures, such as electrocardiography and long-term monitoring, are available. For comprehensive diagnostic tests (e.g. blood tests, radiological imaging), patients must visit the Çukurova University Training and Research Hospital's laboratories and radiology departments, which is considered a disadvantage. The lack of detailed laboratory services and the limited availability of outpatient clinic hours have been frequently reported by patients as major shortcomings.

In a study conducted at Hacettepe University, 48.3% of participants who visited the on-campus health center expressed dissatisfaction with its operating hours^{15,25}. A study of Eastern Kentucky University, students unable to visit the outpatient clinic due to academic responsibilities, part-time jobs, or extracurricular activities⁹. Similarly, Turner and Keller³¹ emphasized that traditional university health center hours often fail to match students' availability, reinforcing the importance of implementing more flexible operating times to improve accessibility and overall satisfaction. In our study, feedback and suggestion section indicated that some departments should offer afternoon services, as the current operating hours do not align well with students' class schedules or staff working hours. The absence of afternoon hours makes it difficult for some patients to access healthcare when needed, contributing to lower satisfaction levels.

Erdem et al.²⁹ examined the role of gender in patient satisfaction and found a significant effect. Thi et al.³² similarly demonstrated that gender impacts patient satisfaction, reporting that male patients were more satisfied with healthcare services than female patients. In our study, although gender-based comparisons revealed statistically significant differences, the relatively small effect sizes (r values between 0.08 and 0.19) indicate that these differences have limited practical significance. In general, both genders reported comparable levels of satisfaction, with male patients demonstrating only slightly higher ratings across several questions. These results indicate that men generally perceived the Medico-

Social Health Center's services more positively than women, suggesting a potential gender-based difference in service perception or expectation. Likewise, while we found statistically significant differences between student and staff, the small effect sizes (r values ranging from 0.11 to 0.16) suggest that these differences, though consistent, are not practically vast. This indicates a generally similar healthcare service experience for both groups, with staff perceptions being only slightly more positive. These results indicate a generally more positive perception of service quality among staff, potentially due to differences in expectations, frequency of service use, or familiarity with the system.

At Akdeniz University's Medico-Social Health Center, the primary user group is university staff, indicating that the center serves staff needs as much as it protects student health^{23,33}. In contrast, our study revealed that students are the predominant users of the center. Factors influencing this trend may include a higher demand for treatment among students, as well as accessibility and geographic conditions. Medico-Social Health Centers are institutions that provide primary healthcare services to students, staff, and their families. As such, they are well-suited to function as "family medicine" centers, being the first point of contact for medical care^{4,34}. However, although they are considered initial access points, the patient profile at these centers differs significantly from that of family health centers. They primarily serve adolescents and adults. Moreover, screenings conducted at these centers can be highly beneficial in identifying health problems specific to university populations^{23,35}. That said, periodic health services such as prenatal monitoring and child wellness checks are either rarely conducted or not offered at all.

Additionally, to improve healthcare service quality and reduce disparities at the Çukurova University Medico-Social Health Center, several strategies should be improved. Priority should be given to enhancing communication with female patients through healthcare staff training and regular feedback sessions. Extending operating hours in high-demand outpatient clinics, such as Internal Medicine and Family Physician Services, could improve accessibility, while awareness campaigns may increase utilization of underused services like Psychological Counseling and Nutrition. Establishing separate feedback systems for students and staff, combined with systematic monitoring, would support continuous quality improvement. Finally, the

expansion of laboratory and diagnostic services would ensure more comprehensive and patient-centered care.

This study is not without limitations. First, face-to-face interviews for the survey may have introduced response bias due to social desirability. Second, absence of longitudinal data limits the ability to assess changes in satisfaction over time. Third, as the study was conducted at a single institution (Çukurova University Medico-Social Health Center) with only students and staff, the generalizability to other populations is restricted. Finally, given the dynamic nature of the university population, ongoing and repeated assessments will be necessary to capture the perspectives of new students and ensure updated evaluations. Also, setting up regular feedback systems, such as survey, helps Medico-Social Health Center track patient experiences and improve services, creating a more responsive, patient-centered environment. These measurements will enhance overall satisfaction for both students and staff.

This study evaluated the satisfaction levels of students and staff receiving outpatient care at the Medico-Social Health Center of Çukurova University. Our findings suggest that staff reported higher satisfaction than students, particularly regarding cleanliness, staff courtesy, and the physical conditions. Moreover, gender-based differences also emerged, with male participants expressing greater satisfaction than females in questions such as waiting times, examination duration, and service accessibility. Although effect sizes were generally small, the large sample confirmed that these differences, while subtle, were systematic rather than incidental. Furthermore, strong positive correlations revealed that accessibility to healthcare staff, front desk guidance, cleanliness, and clear information provision are tightly interlinked, emphasizing that improvements in one dimension can significantly enhance overall patient satisfaction. Given these findings, this study may contribute to improving the quality of the health center's services. Examples include increasing clinic diversity or extending operating hours. Additionally, the study identifies key factors influencing patient satisfaction, addresses issues within the service delivery process, and guides the design of more patient-centered healthcare experiences. Therefore, regular monitoring and evaluation of satisfaction among both students and staff in university-based Medico-Social Health Centers are strongly recommended.

As a result, studies combining both student and staff (academic and administrative) populations are limited in Turkey, and are almost nonexistent in the international literature. Thus, this study aims to fill that gap and provide reference values for future research by comparing satisfaction levels between these two groups. It is expected that the results will serve as a valuable contribution for the development of more equitable and effective healthcare services for similar Medico-Social Health Centers.

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