Original article

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Assessment of patient satisfaction towards Adult Emergency Department service at University of Gondar Comprehensive Specialized Hospital, Northwest Ethiopia, 2021.

Melkamu Gebrie[1], Abdulkadir Adem[1], Birtukan Asmro[1], Mengistu Admasu[1], Alemnew Tsehay[1], Marye Getnet Asfaw[1], Bikis Liyew[1*]

ABSTRACT

Background: *The emergency department is the first point of contact for patients to receive primary care, and it is considered the first therapeutic unit in the hospital for treating patients.*

Objective:*To assess adult Emergency Department service patient satisfaction at the University of Gondar Comprehensive Specialized Hospital, Northwest Ethiopia, 2021.*

Methods: *A cross-sectional study design was employed. A systematic random sampling technique was used to select the study participants. The study period was from July 15 to September 15, 2021. Data were collected using a standard Brief Emergency Department Patient Satisfaction Scale. Data was entered in Epidemiological Information version 7.2.1.0 and exported to statistical software for Social Science version 20 for further analysis. Descriptive statistics were used to describe the distribution of data.*

Result: *Of the 196 participants approached, 195 completed the questionnaire, with a response rate of 99.5%. Of the respondents, 92 (47.2%) with [95% CI: (40.0-54.4)] were satisfied with the emergency care services provided, whereas 103(52.8%) with [95% CI: (45.6-60.0)]. In the five categories of services, respondents' satisfaction rates with the emergency department staff, emergency department environment, physician care, general patient satisfaction, patients' family satisfaction, and the overall components of satisfaction were 50.3%, 42.1%, 48.7%, 57.4%, 65.1%, and 47.2% respectively. The mean waiting time until seen by a physician in the emergency department was 61 minutes with a standard deviation=75.7 ranging from 2 minutes to 6 hours.*

Conclusion: *According to this study, overall patient satisfaction with adult Emergency department service at the University of Gondar Comprehensive Specialized Hospital was low. Concerning the five domains of patient satisfaction measurement, the highest satisfaction level was recorded with the patient's family satisfaction, and the lowest satisfaction level was documented in the emergency department environment. The mean waiting time until seen by the doctor was 61 minutes, with a standard deviation of 75.*

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Keywords: Emergency department, Patient satisfaction, Gondar, Ethiopia.

1. University of Gondar, Gondar, Ethiopia.
Correspondence: Bikis Liyew
Email: biksliyew16@gmail.com

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1. Introduction

Client satisfaction is an essential factor affecting institutions' competitiveness, improvement, and achievement for future opportunities.[1, 2] Assessing patients' expectations and priorities can significantly help authorities provide clients with better-organized services.[3,4] Satisfaction with emergency departments (ED) affects overall satisfaction with hospitalization, and the evaluation of patient satisfaction measures the quality of care in the ED.[5, 6] Client satisfaction is crucial in choosing an ED for receiving services or even recommending them to others.[7] Emergency departments handle 28% of all acute care visits in the USA, and emergency center referrals have increased in recent decades.[8] Quality healthcare is defined as care that meets or exceeds ED in a pivotal healthcare setting and understanding the relationship between patient satisfaction and ED care level.[9] The emergency department setting plays a vital role in the satisfaction of healthcare service consumers[10] and their expectations.[11]To improve care quality and meet patients' needs, measures to enhance the experience patients have on ED arrival are crucial for promoting a good patient experience [12]. Patient satisfaction metrics are essential indicators of emergency care quality.[13]

Moreover, awareness of patients' perceptions of medical needs and emergencies helps to evaluate and classify patients.[14] Evidence showed that promising interventions to increase patient satisfaction in Emergency Departments include providing information on how the ED functions through visual media, improving ED processes through performance improvement methodologies, and improving the interpersonal skills of providers.[15] In addition, patient satisfaction surveys are important quality improvement tools gaining momentum worldwide [16]. Since ED is the first point of contact for patients to receive primary care, we aimed to explore patient satisfaction related to ED healthcare services at our institution [17]. Measuring client or patient satisfaction has become integral to hospital management strategies globally.[18] Furthermore, most countries' quality assurance and accreditation process requires measuring clients' satisfaction regularly[19]. One of the WHO's six building blocks of health systems is the delivery of health services that are effective, safe, and of good quality for those who need them.[20] Previous works of literature conducted in Iran 82.5% [21], Moroccan University Hospital (66%)[22], Jamaica (59.9%) [23], Iran (63%)[24, 25], Saudi Arabia (43%)[17], south Nigeria (66.8%)[26] of patients satisfied in emergency services. Health care in developing countries has not traditionally focused on emergency medical care[27]. Emergency medicine is a newly developing department in Ethiopia that has faced different difficulties but has shown promising progress over the past few years[28]. Recent healthcare reform efforts have increasingly focused on patient-centered care, emphasizing individual care and expecting active participation in decision-making and truly patient-centered care.[29, 30] Previous studies have stressed the evaluation of patient satisfaction as a measure to improve healthcare service quality [31].

Previous studies conducted in Ethiopia (56%)[32], Mekelle, Northern Ethiopia (81.9%)[33], Hawassa Referral Hospital, Southern Ethiopia (86.7%) [34], the southern part of Ethiopia (77%)[35], Jimma, Ethiopia (77%)[36] of study participants were satisfied by services provided in Emergency Department. Satisfied patients may be more compliant with their medical regimens, suggesting that satisfaction may be important in promoting health and well-being.[37-39] At a

hospital level, providing a quality service is usually challenged by burdensome patient flow, and the urgent nature of care in the emergency department (ED) further suppresses the effort. Hence, assessing patients 'satisfaction as a quality of care indicator is required to monitor the nontechnical aspects of quality of care in such settings [34]. As far as the researcher's search engine, Emergency Department Patient satisfaction is not documented in the study area. Therefore, this study will fill the gap in information about Emergency Department patient satisfaction at the University of Gondar Comprehensive Specialized Hospital.

Research hypotheses

There is poor adult Emergency department service and patient satisfaction at the University of Gondar Comprehensive Specialized Hospital, Northwest Ethiopia, 2021.

2. Methods and Materials

Study Design and Period

An institution-based descriptive cross-sectional study was conducted at the University of Gondar Comprehensive and Specialized Hospital from July 15 to September 15/2021.

Study setting

Gondar town is found at altitudes of 2100 to 2870 meters above sea level in the country's northwest. It is Northern of Tana Lake on the Lesser Angereb River and South West of the Semien Mountain. It has a $12^0$36'N latitude and $37^0$28'E Longitude with an elevation of 2133 meters above sea level. It was founded in 1635 E.C. by emperor Fasiledas and covers 40.27 km^2. It is located in one of the cultural heritage sites, 738 KM North of Addis Ababa. Based on the 2007 national census conducted by the Central Statistical Agency of Ethiopia, Gondar has a total population of 207,044, of whom 98,120 are men and 108,924 women. The majority of the inhabitants practiced Ethiopian Orthodox Christianity, with 84.2% reporting that as their religion, while 11.8% of the population said they were Muslim and 1.1% others [40]. The town has two hospitals, one private hospital, and one government hospital, the University of Gondar Comprehensive Specialized Hospital (GUCSH). The University of Gondar comprehensive specialized hospital serves a population of approximately 6 million. Various diseases, including both communicable and non-communicable, are found, and services include Outpatients, clinics, Maternity clinics, Emergency wards, Adult inpatients, Pediatrics in patients, Community clinics, laboratories, and others [41]. The hospital has 518 beds and sees between 350 and 400 patients daily and between 100 and 120 emergency patients. The hospital has four emergency suites with a triage unit for distribution, red, yellow, and green zones. It is staffed by about 400 nurses and 150 physicians. [41] UGCSH is a teaching as well as referral Hospital under the Ministry of Education, which is expected to serve more than 5 million patients and has more than a thousand beds and around 833 health professionals(590 nursing staff), 660 administered to staff and around 48 service deliveries.[41]

Study participants

The source populations were all adult patients who had served in the adult Emergency Department of the University of Gondar Comprehensive Specialized Hospital. The study populations were all selected adult patients who had served in the adult Emergency department of the University of Gondar Comprehensive Specialized Hospital. All patients ≥18 years old had to serve in the adult Emergency Department of the University of Gondar Comprehensive Specialized Hospital. Adults in the emergency

department who were acutely sick and had a hearing problem (unable to communicate) were excluded.

Sample size and Sampling Procedure

The required sample size was determined by using a single population proportion formula, by considering the following: - n= $\frac{(z\frac{\alpha}{2})^2 xPQ}{d^2}$ Where; n = sample size of the population; P = prevalence = 86.7% = 0.867 taken from the study conducted at Hawassa university referral hospital (34). Where d = margin of error = 5%; q = 1-p =1-0.5=0.5; $z\frac{\alpha}{2}$= Confidence level (95%) CI= 1.96; 10% of the calculated sample size was added to compensate non-response rate n= $\frac{(z\frac{\alpha}{2})^2 xPQ}{d^2}$; n=177.2=178**;** 10% non-response rate (18), Total sample size 196. The average number of patients flowing into the emergency department monthly is 900, as we got the information from the emergency staff and administrative bodies. Based on this, the data was collected for two months with a systematic sampling technique to select study participants with a constant interval of 10 patients. The study participants were selected from the adult Emergency Department of the University of Gondar Comprehensive Specialized Hospital purposely.

Operational Definition

Good satisfaction: The patient scores mean and above on the Brief Emergency Department Patient Satisfaction Scale (BEPSS) related questions.

Poor satisfaction: if the patient scores below the mean of Brief Emergency Department Patient Satisfaction Scale (BEPSS) related questions.

Data collection procedures and tools

Data was collected using face-to-face interviews with a structured questionnaire, which was adapted from the literature [42]. The questionnaire contains socio-demographic characteristics and a brief Emergency Department Patient Satisfaction Scale (BEPSS). Data were collected using the Structured Brief Emergency Department Patient Satisfaction Scale (BEDPS), which was developed to assess patient satisfaction with the Services provided in the ED [43]. The questionnaire has a 4-point Likert scale; the English version of the questionnaire was translated into the local language (Amharic) first and then translated back into English. The reliability of the surveying instrument was determined using the internal consistency method. After administering the questionnaire used in this study, the responses were statistically tested for internal consistency. Cronbach's alpha coefficients were 0.85. Overall, the questionnaire contains the Socio-demographic part and BEPSS 20 questions divided into five parts: six questions related to ED staff, three questions about the ED environment, four questions about patient care satisfaction, five questions about general patient satisfaction, and two regarding patients' family satisfaction. The total sample was distributed into different working shifts considering busy work hours, different providers, days of the week, and the type of client complaint that were considered to affect satisfaction level. The total sample size was distributed to a different shift. Data were collected by five nurses who distributed the questionnaires to the respondents to get their willingness to collect the filled data. The study subjects were interviewed face-to-face immediately after getting an emergency service, i.e., admitted to the inpatient ward, consulted to the respective specialty units, or before they were discharged to home after getting emergency medical services.

Data Quality Assurance

Data quality was ensured during collection, coding, entry, and analysis. Before data collection, a pretest was done on 5% (n=10 patients) of a similar population out of the study area in Debark Hospital. During data collection, adequate training information and follow-up were provided to the data collector and supervisor. The training was given for data collectors for one day to ensure all group members had the same information about the study instrument and followed the same survey administration procedures. Supervision of data collectors included observations on how the data are collected by administered questionnaires. Codes were given to the questionnaires during the data collection, and any identified errors were corrected by tracing back using the code. The filled questionnaires were checked for completeness by the data collector and supervisor. Consequently, any problem encountered was discussed among the survey team and was solved immediately. The first data were checked manually for completeness, then coded and entered into Epi-info, and cleaned thoroughly before being transferred to SPSS for further analysis. The tools used to ensure validity and reliability in this study included scientifically selecting samples and pretesting. The questionnaire was checked for clarity, comprehensiveness, and validity before data collection. There should be a discussion within the group/data collectors to ensure all group members have the same information about the study instrument and follow the same survey administration procedures. The principal investigators (group members) collected the filled questionnaire and checked daily for missed values and completeness.

Data Processing and Analysis

Data were checked, coded, and entered into Epi info version 7.2.2.6, then exported to SPSS version 25 for analysis. Descriptive statistics such as frequency, percent, mean, and standard deviation were used to summarize the distribution of variables. Simple frequencies were used to see the overall distribution of the study subjects on the variables under study. Finally, the results were presented in texts and tables.

Ethics approval and consent to participate

Ethical clearance and approval were obtained from the Institutional Review Board (IRB) of the University of Gondar. An official permission letter has been obtained from the School of Nursing Ethical Review Committee and the nursing Director of the University of Gondar Comprehensive Specialized Hospital. Confidentiality was maintained in each level of the response by omitting personal identifiers. The study was explained fully (i.e., the aim of the study and the significance of the study) to each participant before joining the study, and if the participants agreed to participate, then informed consent was given to sign. The study participants had the right to refuse to join, answer questions, or withdraw at any particular point during the data collection process without being frustrated. Before data collection, the aim of the study was explained to the participants and after their willingness, written permission was obtained before filling out the questionnaire. Therefore, informed written consent was obtained from the participants, and confidentially was maintained by omitting their identification.

3. Result

Socio-demographic characteristics of study participants

A total of 195 completed the interview, with a response rate of 99.5%, with only one participant not completing the interview due to unexplained reasons. The majority of 149 (76.4%) were males, and the mean age of the study participants was

33.53 (SD=14.557), which ranged from 18 to 73 years. Concerning their educational status, were unable to read and write 45 (23.1%), being able to read and write 20 (10.3%); the rest of the participants had primary and above level education, and most of the respondents had 177(90.8%) were orthodox religion followers. The mean waiting time until seen by a physician in the ED was 61 minutes, with SD=75.7 ranging from 2 minutes to 6 hours (Table 1).

Table 1: Socio-demographic characteristics of study participants in the emergency department, July 15 to September 15/2021, Gondar University Hospital, northwest Ethiopia (n = 195).

Demographic characteristics		Frequency	Percent
Gender	Male	149	76.4%
	Female	46	23.5%
Age	18-27	87	44.6%
	28-37	45	23.1%
	38-47	42	21.5%
	48-67	10	5.1%
	>68	11	5.6%
Religion	Orthodox	177	90.8%
	Muslim	18	9.2%
Level of education	Unable to read and write	45	23.1%
	Read and write only	20	10.3%
	Primary education	23	11.8%
	Secondary education	52	26.7%
	College and above	55	28.2%
Marital status	Marriage	82	42.1%
	Single	95	48.7%
	Divorced	12	6.2%
	Windowed	6	3.1%
Residency	Urban	135	69.2%
	Rural	60	30.8%
Waiting time till seen by a doctor (Mean=61 minutes with SD=75.7 ranged from 2 minutes to 6 hours			

Patient satisfaction with the emergency department services

From 195 respondents, 171(87.7%) were satisfied with "Nurses care about my treatment," and 159(81.5%) were satisfied with "Family can spend an appropriate amount of time besides the patient". The mean satisfaction rate of respondents to the emergency department staff (EDS), emergency department environment, physician care, general patient satisfaction, patients' family satisfaction, and the overall components of satisfaction were 17.2462, 8.4051, 12.0821, 14.5795, 5.9026, and 58.2154, respectively (Table 2).

Table 2: The satisfaction rate of study participants towards the emergency department services in Gondar University Hospital from July 15 to September 15/2021 (n = 195).

Questions	Satisfied (%)	Dissatisfied (%)
Emergency department staff (EDS)		

Nurses care about my treatment	171(87.7%)	24(12.3%)
Nurses inform me about the remaining the treatment	121(62.1%)	74(37.9%)
Nurses attended to me patiently	135(69.3%)	60(30.7%)
Nurses relieved me of the pain well	145(74.4%)	50(25.6%)
Admission staff guided me appropriately	93(47.7%)	102(52.3%)
The behavior of the admission staff was suitable	100(51.3%)	95(48.7%)
Emergency Department Environment (EDE)		
The environment of the emergency room was calm and quiet	134(68.7%)	61(31.3%)
Emergency room was well equipped	120(61.5%)	75(10.8%)
The environment of the emergency room was hygienic	147(89.2%)	48(62.1%)
Physician care satisfaction (PCS)		
The physician told me about my treatment course	153(78.5%)	42(21.5%)
The behavior of the physician was respectful	172(88.2%)	23(11.8%)
The physician's explanation about the remaining treatment was enough	128(65.6%)	67(34.4%)
The physician spent a sufficient time examining me	123(63.1%)	72(36.9%)
General patient satisfaction (GPS)		
The waiting time before seeing the doctor was appropriate	146(74.9%)	49(25.1%)
The waiting time before the admission process was appropriate	127(65.1%)	68(34.9%)
I would recommend this hospital to my acquaintances	142(72.8%)	53(27.2%)
I am satisfied with the quality of services in the emergency room	146(74.9%)	49(25.1%)
The emergency room of this hospital is well-functioning	154(79%)	41(21%)
Patient's family satisfaction (PFS)		
The family of the patient is respected in this hospital	139(71.3%)	56(28.7%)
The family can spend an appropriate amount of time beside the patient	159(81.5%)	36(18.5%)

The overall patient satisfaction with the ED services

The majority of respondents, 92(47.2%) with [95% CI: 40.0-54.4], were satisfied with the emergency care services provided. In the five categories of services, they got the respondents' satisfaction rate with the emergency department staff (EDS), emergency department environment, physician care, general patient satisfaction, patients' family satisfaction, and the overall components of satisfaction was 50.3%, 42.1%, 48.7%, 57.4%, 65.1%, and 47.2% respectively (Table 3).

Table 3: The overall satisfaction rate of study participants towards emergency medical services at UOGCSH (n=195)

Questions	Satisfied n (%)	Dissatisfied n (%)
The overall satisfaction of Emergency department staff (EDS)	98(50.3)	97(49.7)
The overall satisfaction of the Emergency department environment (EDE)	82(42.1)	113(57.9)
The overall satisfaction of Physician care satisfaction (PCS)	95(48.7)	100(51.3)
The overall satisfaction of General patient satisfaction (GPS)	112(57.4)	83(42.6)

The overall satisfaction of patient's family satisfaction (PFS)	127(65.1)	68(34.9)
Total overall satisfaction of patients towards emergency department services	92(47.2)	103(52.8)

4. Discussion

In this study, the overall patient satisfaction towards the emergency medical service provided in Gondar University Hospital was 47.2% with [95% CI: (40.0-54.4)]. This is lower than a study conducted in Jamaica to assess Emergency department service, patient satisfaction score was 76.1%)[23] and a study in Reza Hospital in Tabriz, Iran satisfaction score of 63%[24], a southern Ethiopia, Hawassa (86.7%), and Jimma (78%) [44], South-Western part of Ethiopia (77.0%)[45], Mekelle, Northern Ethiopia (81.9%)[33], and Tertiary Hospital in south Nigeria (66.8%)[46] and Morocco 66%.[47] This could be due to the current political situation in the northern parts of the country that increases the workload, which may decrease the level of patient satisfaction, and this difference might be due to the difference in the tool used to measure patient satisfaction and the difference in clinical characteristics (medical condition on arrival) of the patients. It might also be a study time difference; currently, enough amounts of health care staff in the primary hospital have been increased nearby words, which decreases the workload of this hospital. This difference might also be related to the study participants' socio-demographic/economic status and cultural characteristics, sampling method, and sample size. The other possible reason might be linked to workload, the availability of resources, and the work environment, and it might be related to a different time of recall period.

In the current study, the overall patient satisfaction towards the emergency medical service provided at Gondar University of Gondar Comprehensive Specialized Hospital was consistent with a study conducted in the Eastern part of Ethiopia (54.1%).[48] This is likely due to the similarity of measurement tools and socio-demographic characteristics of the respondents. It also could be due to the similarity in the study health facility setups, so the number of screening, diagnostic follow-up, and other intervention procedures services used in emergency departments was similar. The reason may be the presence of specialized emergency care services in the other studies that provided better patient care. The current study is comparable with a study conducted in New Delhi Hospital, India (55%)[49]. The current study's findings are higher than those from Pakistan[50]. The difference might be because the Pakistan study additionally considered the ambulance service call for emergency conditions to reach health facilities, which might have overestimated the dissatisfaction.

In contrast, our study only considers adult emergency room emergency medical services rather than pre-hospital emergency medical services. This will affect healthcare service utilization. Improving the accessibility, suitability, and quality of care provision is crucial to saving and sustaining patients' lives.

Concerning the five domains of patient satisfaction measurement, the respondents have lower satisfaction in the emergency department environment (EDE) (42.1%) and overall satisfaction of physician care satisfaction (PCS) (48.7%). Similarly, a study from Mekelle[51] and Iran also showed the lowest satisfaction towards the pleasantness of the waiting area.[52] This

indicates a potential weakness, and the hospital management should work to improve the quality of care. As it has been stated in other studies, providing a comforting environment, interpersonal skills in terms of politeness, and respect by health care providers, in addition to communication skills, explanation, and clear information, are essential and influential than other technical skills such as clinical competency and hospital equipment[51-53]. The mean waiting time until seen by a physician in the ED was 61 minutes with SD=75,7, ranging from 2 minutes to 6 hours, which is higher than the study conducted in Mekele[51] central Saudi Arabia[17], Iran 10.7± 6.1 minutes.[52] The lengthy waiting time in the current study might be due to the burden of high patient flow to the hospital since this is the only referral hospital with a wide catchment area and current country conflict, as explained above.

Limitations

Based on such assessment data, evidence-based interventions related to client satisfaction can be implemented. However, there may be potential confounding factors that we did not consider in the data collection tool preparation or the analysis. Patients with different clinical presentations might have different satisfaction rates, and the severity of cases may influence satisfaction rates.

5. Conclusion and recommendation

According to this study, the lowest level of patient satisfaction (47.2%) was recorded in adult emergency medical care received at the emergency department of the University of Gondar Comprehensive Specialized Hospital. Concerning the five domains of patient satisfaction measurement, the highest satisfaction level was recorded with the patient's family satisfaction, and the lowest satisfaction level was documented in the emergency department environment. The mean waiting time until seen by the doctor was 61 minutes, with SD 75.

Recommendation

- To researchers

To conduct this research to identify the determinant factor by using logistic regression.

To classify the clinical presentation of the patient and severity of the disease to identify the real magnitude of patient satisfaction level.

- To Gondar University Hospital administrative bodies

To assess the working environment of the emergency department to take action regarding hygiene and comforting the environment.

- To Gondar University Hospital healthcare staff

To give more attention to patient satisfaction by respecting them, informing them about their treatment, attending to patients patiently, and with more intention to relieving their pain

- Generally

The hospital management and staff at the ED should work together to increase customer satisfaction and minimize waiting time.

Abbreviation

BEPSS: Brief Emergency patient Satisfaction Scale
EDE: Emergency Department Environment
EDS: Emergency Department Staff
EPI INFO: Epidemiological Information
ETB: Ethiopian birr
GPS: General Patient Satisfaction
OPD: Outpatient department
PCS: Physician Care Satisfaction
PFS: Patient Family Satisfaction
SPSS: Statistical Package for Social Science
UGCSH: University of Gondar Comprehensive Specialized Hospital

Author Contributions

Melkamu Gebrie conceived and designed the study, analyzed and interpreted the data, and wrote the manuscript. Abdulkadir Adem, Birtukan Asmro, Mengistu Admasu, Alemnew Tsehay, Marye Getnet Asfaw, and Bikis Liyew revised the proposal, data analysis and interpretation, advised the whole research paper, were involved in interpreting the data, and contributed to manuscript preparation. All authors read and approved the final manuscript.

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Conflict of Interest

The authors declare that they have no competing interest.

Data Availability

All data about this study are contained and presented in this document.

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