

## Original Article

# PATIENT SATISFACTION REGARDING EMERGENCY DEPARTMENT SERVICES AT COMBINED MILITARY HOSPITAL (CMH) LAHORE – A CROSS-SECTIONAL STUDY

Sehar Khauteja Khan<sup>1</sup>, Uswah Bokhari<sup>2</sup>, Shahmir Ahmad Khan<sup>3</sup>, Uswah Shoaib<sup>4</sup>, Rana Zaid Haris<sup>5</sup>  
Zainab Omer<sup>6</sup>

### ABSTRACT

**Background:** To measure the level of satisfaction of the patients that present to the emergency department of CMH Lahore, as feedback from the patients themselves is the most reliable source of information regarding the healthcare system's shortcomings.

**Material and Methods:** We conducted a cross sectional analytical study over 6 months at the accident and emergency A&E department of CMH Lahore. The investigators administered patients that presented to the A&E department self-designed questionnaires in a non-contrived setting and participants were enrolled using simple convenience sampling. Before conducting this definitive research, a pilot study was conducted where the time is taken to fill in the questionnaire and its practicality was assessed. The inclusion criteria included all patients presenting to the A&E department, over the age of 18 years, oriented in time, place and person. The patients that presented to all other departments, younger than 18 years and in a state of delirium, confusion and unconsciousness were excluded from the study.

The questionnaire assessed demographic data, physical environment, accessibility, attitude of healthcare providers towards patients and overall satisfaction.

**Results:** Among a total of 277 respondents, 67.9% were males and 32.1% were females. Maximum satisfaction was documented in the area of health care the professional's attitudes towards the patients where 81.6% were satisfied. There was a significant association between level of dissatisfaction and age with a p-value < 0.015 where 37.9% respondents were between 15-25 years of age. Patients who were overall satisfied with the A&E department were 88.8%.

**Conclusion:** Patients were predominantly satisfied with the healthcare facilities provided at the A&E department other than a few basic facilities including physical environment and information regarding prescribed medicine.

**Key Words:** Patient satisfaction, Gender, Emergency

doi: <https://doi.org/10.51127/JAMDCV4I4OA02>

### How to cite this:

Khan SK, Bokhari U, Khan SA, Shoaib U, Haris RZ, Omer Z. Patient satisfaction regarding emergency department services at combined military hospital (CMH) lahore – a cross-sectional study. JAMDC. 2022;4(4): 163-171

doi: <https://doi.org/10.51127/JAMDCV4I4OA02>

## INTRODUCTION

Patient satisfaction is a multidimensional and multifactorial process. It depends on various factors, including medical, non-medical, demographic, institutional, individual and many more.

For instance, the determinants of patient satisfaction may include age, gender, race, literacy, technology, medical staff attitude, communication, catering, cleanliness, treatment costs, duration of stay at the facility, waiting hours, medical condition, expectations of the patient etc.<sup>1</sup> Provider attitude, technical competence and accessibility are also important attributes for patient satisfaction.<sup>2</sup> Medical staff services

<sup>1-5</sup>Students Final Year MBBS, CMH Lahore Medical College and Institute of Dentistry.

<sup>6</sup>Senior Demonstrator Community Medicine, CMH Lahore Medical College and Institute of Dentistry.

technology, medical staff service attitude and hospital convenience are also important factors for patient satisfaction.<sup>3</sup> A physician's financial incentives also affect the patients' health.<sup>4</sup> A popular Donabedian philosophy states the dependence of quality care on three main components; structure, process and outcome in terms of patient's experience.<sup>5</sup> Even though patient satisfaction might be a vaguely defined term, several studies show that it is a very significant indicator of the quality of healthcare provided by the facility or system.<sup>6-9</sup> Achieving and producing health and satisfaction, as defined for its members by a particular society or subculture, is the ultimate validation of the quality of care.<sup>10</sup> In recent times, patients have assumed more of a consumer role and are demanding a bigger claim in their healthcare and expect certain standards of services from their providers. So, it becomes even more relevant to gauge the satisfaction levels to improve healthcare organizations and delivery systems. Patient satisfaction is the extent to which the patient is happy with their health care inside and outside the doctor's office. A measure of care quality, patients satisfaction gives providers insight into various aspects of medicine including effectiveness of care and level of empathy.<sup>11</sup> Low patient satisfaction may also lead to poor compliance, potentially leading to waste of resources.<sup>9</sup>

A vast pool of literature is available on the overall satisfaction of patients in the emergency department (ED) and the various factors leading to improved experience at the ED. A study in Pittsburgh established that in patient satisfaction, patient-doctor communication was one of the most important factors.<sup>12</sup> In 2001 C.A Berry et. al. made a critical analysis of the study by Elliot Mishler in 1984 that confirmed the results of Mishler. Both studies ascertained that when there is psychological bond between doctor and patient, better outcome is seen and patient is more satisfied. Therefore, interpersonal communication between patient and physician is important.<sup>13</sup>

A study in Brazil looked at another aspect in patient satisfaction. In addition to timely

care, and empathy, it reported that the environment plays a major role in patient satisfaction. Environment included three aspects; signage, comfort and cleanliness. A high majority of patients were satisfied with the signage at the hospital to facilitate getting to the necessary locations. Greater than 90% of the patients also graded the quality of cleanliness positively. However, 27.7% expressed some degree of dissatisfaction when it came to comfort.<sup>14</sup>

Empathy is critical to develop rapport between healthcare providers and patients. In the United States physicians with better scores for the Jefferson Scale of Empathy (JSE) resulted in patients being better satisfied at the ED and vice versa.<sup>15</sup>

A significant sum of literature is also available from Pakistan. Saleem S. et al. reported high levels of satisfaction among patients and their attendants in regard to positive attitude and behavior of doctors, nurses, paramedics and with the overall management with 75% patients satisfied with emergency services.<sup>16</sup> A similar study from a tertiary care hospital in Karachi showed average satisfaction level of the hospital to be 3.98 out of 5 (79.7%).<sup>17</sup> A similar study found patient experiences and their expectations with health care services to be important determinant of patient satisfaction in Pakistan. Age, gender, literacy and social class are characteristics influencing patient satisfaction. In addition lack of privacy, autonomy, involvement in decision making, poor communication and sanitation/hygiene leads to bad patient experience hence decreased satisfaction.<sup>18</sup> Qayyum S. et al. also supports the above literature as high overall satisfaction was reported among patients received in the Emergency department at a public sector hospital in Lahore. The major cause of satisfaction was the attitude of doctors while causes of dissatisfaction included long waiting time and disappointing attitude of other staff.<sup>19</sup> One of the challenges of the modern time is how to maintain high level and accessibility of health care services at the current level. Developing a financially viable health care

system with an efficient use of human and other resources as well as achieving efficient and effective health care, from the perspectives of the healthcare field, health care providers and patients, has thus become the central goal of health care policy activities in all developed countries.<sup>20</sup> One of these most discussed strategies to improve patient satisfaction and outcomes is the effective utilization of staff to alleviate burden by operative and efficient management as discussed by Fong Yeong Woo et, al. The systematic review analyzed 15 studies which found that advanced practice nursing roles in the emergency and critical care settings improved patient outcomes by decreasing length of stay, reducing the waiting time which is a major cause of dissatisfaction in patients, and improving the overall patient satisfaction.<sup>21</sup> In this study we aim to measure and analyze the satisfaction of patients regarding the emergency services and care provided in the emergency department of CMH (Combined Military Hospital) Lahore and to effectively map all the potential areas of improvement and provide appropriate recommendations for improvement of quality of services provided at the facility.

## **MATERIAL AND METHODS**

We conducted this cross sectional study at the Emergency and Trauma Center of Combined Military Hospital, Lahore from February to June 2021.

The Combined Military Hospital Lahore is categorized as an A- class military hospital equivalent to a tertiary care hospital. The Emergency Department comprises of 12 beds and a daily turnout of 180 to 200

All the patients, irrespective gender who had reported to ED of said hospital, were over the age of 18 years, oriented in time, place and person were included in this study using non-probability convenience sampling technique. Patients reporting to other departments, younger than 18 years and in a state of delirium, confusion and unconsciousness were excluded. Before this definitive research, a pilot study was conducted where

the time taken to fill in the questionnaire and its practicality was accessed.

The sample size for this study was 280, calculated using Rao software with a 95% confidence interval and 5% margin error.

The structured questionnaire was administered to the respondents in person in a non-contrived setting. Questionnaire was available in both English and Urdu languages; adapted from previous literature.<sup>22</sup> The questionnaire had three sections; the first part included the demographic profile, the second assessed accident and emergency department services dimensions which include accessibility (2 items), physical environment (3 items), basic facilities (10 items), attitude of the healthcare professionals towards the patients (8 items) and information provided to the patients by the doctor at the ER (7 items). The third part assessed their overall satisfaction level as either yes or no. A five-point Likert scale was used in the second section of the questionnaire which specifies the level of agreement of the participant with the given statement. A score of 1 was given for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree and 5 for strongly agree. Informed consent was taken from the participants before conducting the survey and the investigators constantly guided the patients throughout the filling process. It has a reliability coefficient of greater than 0.70. The participants not able to fill questionnaire themselves were assisted by the investigators.

Questionnaires were manually numbered and checked before being entered into the SPSS software (version 26; IBM). They were checked for any missing entries and disqualified if so. All data was analyzed by using the SPSS software (version 26.0). Results were presented in frequency and percentages. Mean and standard deviation was obtained for quantitative variables i.e. satisfaction score. Chi- square test was used to compare categorical variables with p-value < 0.05 as statistically significant.

Results were expressed as mean score and standard deviation for each section and

subsection. Categorical data for the demographic profile has been presented as frequencies and percentages which were also depicted in the form of graphs, tables, proportions and charts.

## RESULTS

A Total of 277 patients were surveyed regarding their level of satisfaction with the A&E department of CMH Lahore during 6 months. Of these 277 individuals, 32.1% were females and 67.9% were males, and the most frequent individuals visiting the department were between 15-25 years of age (37.9%). The highest number of individuals visiting the department were college graduates (37.5%) and those with an urban background (63.5%) with a monthly income between Rs. 25000/- to 50000/- per month. The major employment group were government employees. The results reflected that 88.8% of participants were overall satisfied with the services provided by the hospital in the A&E Department while 11.2% were not satisfied. The data is graphically represented in Figure 2. There was a significant association between age and level of satisfaction among the patients with a p-value < 0.015 where most of the unsatisfied patients belonged to the group of 15- 25 years of age as shown in Table 1.

The questions related to satisfaction level of patients at the Emergency department comprised diverse areas in provision of services. The three highest ratings were given in the areas of healthcare professionals attitude. A score of 4.21, 4.17 and 4.16 out of 5 was achieved in professional attire, politeness and the behavior of doctors, nurses and paramedical staff respectively. The overall highest satisfaction was also in the health care professional attitude with a mean rating of 4.08 (out of 5). The lowest rating was in the category of information to patients with a mean rating of 3.57 (out of 5). The second lowest rating was in the aspect of physical environment. 81.9% of individuals were satisfied about a clean environment of the emergency room however, 23.4% individuals were dissatisfied with the

cleanliness of the toilet facilities. This data is represented by Figure 1.

The questions related to satisfaction level of patients at the Emergency department comprised diverse areas in provision of services. The satisfaction for different areas and the mean score rating for each question is represented by Tables 2

**Table 1:** Association of demographic variables with overall satisfaction of participants (N=277)

Variable	Population overall satisfied (N)	Population overall unsatisfied (N)	P-value
<b>Gender</b>			
Male	165 (87.8)	23(12.2)	0.424
Female	81(91.0)	8(9.0)	
<b>Age</b>			
15-25 years	86 (81.9)	19(18.1)	0.015
26-35 years	49(96.1)	2(3.9)	
36-45 years	21(87.5)	3(12.5)	
46-55 years	40(87.0)	6(13.0)	
Above 56 years	50(98.0)	1(2.0)	
<b>Educational status</b>			
Illiterate	35(83.3)	7(16.7)	0.067
Primary	25(100.0)	0(0.0)	
Middle	49(98.0)	1(2.0)	
College	89(85.6)	15(14.4)	
Graduate	36(85.7)	6(14.3)	
Postgraduate	12(85.7)	2(14.3)	
<b>Background</b>			
Urban	154(87.5)	22(12.5)	0.362
Rural	92(91.1)	9(8.9)	
<b>Monthly income</b>			
Below Rs. 25,000/-	73(90.1)	8(9.9)	0.519
Rs. 25,000/- to 50,000/-	95(90.5)	10(9.5)	
More than Rs. 50,000/-	78(85.7)	13(14.3)	
<b>Occupation</b>			
Government job	128(91.4)	12(8.6)	0.323
Semi-government	25(83.3)	5(16.7)	
Private	93(86.9)	14(13.1)	

The above table shows association between different demographic factors and overall satisfaction using the chi-square test. There is a strong association between overall satisfaction and age, while there is a weak association with gender, educational status,

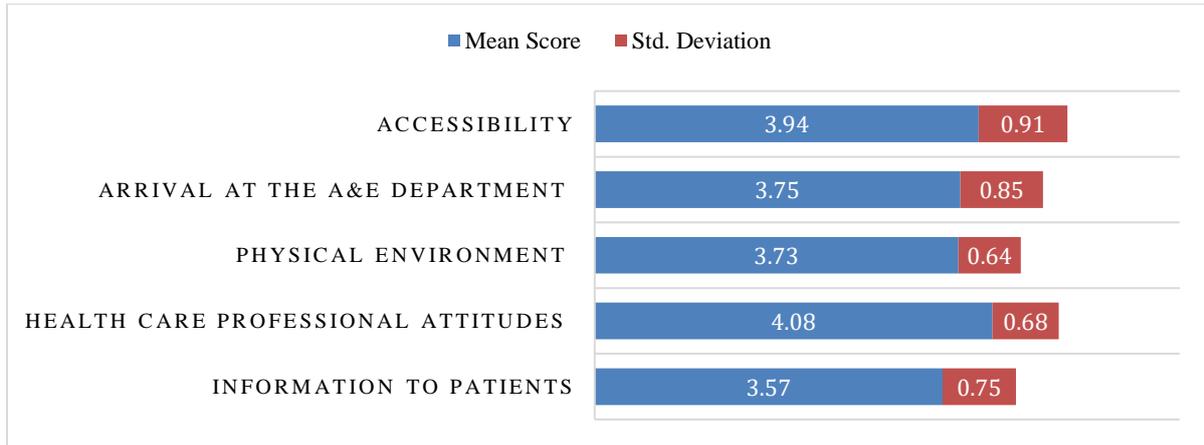
background, monthly income and occupation.

The above table represents the mean rating in diversified satisfaction items with the highest satisfaction in health care professional attitudes.

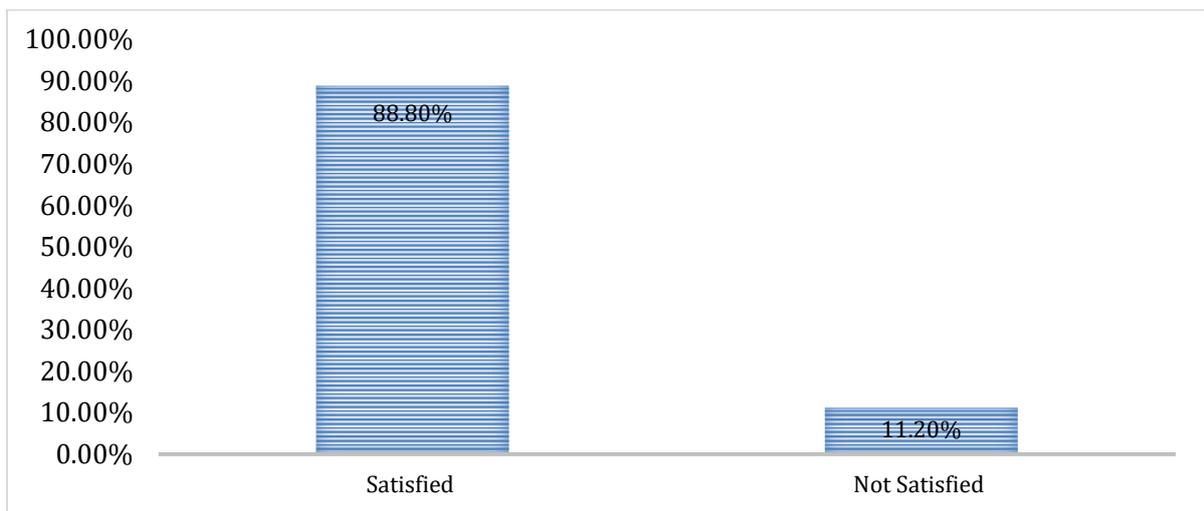
**Table 2:** Patient satisfaction ratings on different variables in A&E department (N=277)

Variables	Strongly disagree (Score: 1) N (%)	Disagree (Score: 2) N (%)	Neutral (Score: 3) N (%)	Agree (Score: 4) N (%)	Strongly agree (Score: 5) N (%)	Mean (Out of 5)
<b>ACCESSIBILITY</b>						
Is your access to A&E department easy?	13(4.7)	14(5.1)	24(8.7)	136(49.1)	90(32.5)	<b>4.00</b>
A&E department entrance from all parts is appropriate and reachable?	5(1.8)	25(9.0)	36(13.0)	141(50.9)	70(25.3)	<b>3.89</b>
<b>ARRIVAL AT THE A&amp;E DEPARTMENT</b>						
The hospital car parking was a convenient place to park.	7(2.5)	27(9.7)	68(24.5)	116(41.9)	59(21.3)	<b>3.67</b>
Receptionist at hospital reception was very much courteous.	4(1.4)	30(10.8)	57(20.6)	111(40.1)	75(27.1)	<b>3.81</b>
<b>PHYSICAL ENVIRONMENT</b>						
The hospital has clean and neat environment inside the department and waiting area.	2(0.7)	13(4.7)	35(12.6)	138(49.8)	89(32.1)	<b>4.08</b>
The waiting area is well maintained and have facilities for patients and attendants	3(1.1)	35(12.6)	45(16.2)	123(44.4)	71(25.6)	<b>3.81</b>
Suitable temperature is maintained.	2(0.7)	30(10.8)	30(10.8)	136(49.1)	79(28.5)	<b>3.94</b>
Lab and pharmacy facilities within the hospital A&E	4(1.4)	23(8.3)	37(13.4)	137(49.5)	76(27.4)	<b>3.93</b>
Welfare facilities in waiting's area are provided.	3(1.1)	32(11.6)	69(24.9)	119(43.0)	54(19.5)	<b>3.69</b>
Are you satisfied with toilet's cleanliness of A & E department?	22(7.9)	43(15.5)	80(28.9)	88(31.8)	44(15.9)	<b>3.32</b>
Are you satisfied with health promotion activities of A&E department	4(1.4)	28(10.1)	77(27.8)	118(42.6)	50(18.1)	<b>3.66</b>
Were you ever bothered by noise in A&E department?	9(3.2)	46(16.6)	54(19.5)	104(37.5)	64(23.1)	<b>3.60</b>
Did you feel bothered or threatened by other patients in A&E department?	19(6.9)	41(14.8)	58(20.9)	95(34.3)	64(23.1)	<b>3.52</b>
Were you able to get cafeteria near or in A&E department?	8(2.9)	22(7.9)	57(20.6)	129(46.6)	61(22.0)	<b>3.77</b>
<b>HEALTHCARE PROFESSIONALS ATTITUDE</b>						
Treats the patient politely	3(1.1)	10(3.6)	26(9.4)	137(49.5)	<b>101(36.5)</b>	<b>4.17</b>
Behavior of doctors, nurses, and support staff towards patients?	3(1.1)	8(2.9)	27(9.7)	142(51.3)	<b>97(35.0)</b>	<b>4.16</b>
Dignity, truthfulness and respect in dealing with the patient.	1(0.4)	15(5.4)	34(12.3)	136(49.1)	91(32.9)	<b>4.09</b>
Provide good description of the recommended treatment plan to the patient.	4(1.4)	25(9.0)	44(15.9)	129(46.6)	75(27.1)	<b>3.89</b>
Have an understanding of the patient's problems	3(1.1)	16(5.8)	32(11.6)	141(50.9)	85(30.7)	<b>4.03</b>
Complete and careful attention to the patient's words	1(0.4)	19(6.9)	37(13.4)	135(48.7)	85(30.7)	<b>4.03</b>
Neatly dressed and adornment	3(1.1)	9(3.2)	22(7.9)	137(49.5)	106(38.3)	<b>4.21</b>
A careful and complete examination of the patient is conducted	3(1.1)	16(5.8)	34(12.3)	132(47.7)	92(33.2)	<b>4.06</b>
<b>INFORMATION TO PATIENT</b>						
The doctor explains the examinations and treatment plan to the patient	4(1.4)	39(14.1)	48(17.3)	134(48.4)	52(18.8)	<b>3.69</b>
The doctor explains the drug's side effects.	26(9.4)	72(26.0)	70(25.3)	78(28.2)	31(11.2)	<b>3.06</b>
The doctor explains the treatment decision and reasons why they have been chosen.	8(2.9)	37(13.4)	64(23.1)	127(45.8)	41(14.8)	<b>3.56</b>
The doctor answers the patient's questions.	5(1.8)	16(5.8)	57(20.6)	106(38.3)	56(20.2)	<b>3.29</b>

This table shows the stratification of the five main variables and the mean scores for each



**Figure-1:** Scores for satisfaction items



**Figure-2:** Overall satisfaction of patients at CMH Lahore Emergency department.

The above figure shows that 88.8% patients were satisfied by the services provided at the A&E department, while 11.2% were not satisfied.

## DISCUSSION

ED is often the first impression patients have of a hospital because that is where many patients present and if satisfied, revisit that particular hospital for follow ups. Patient "satisfaction" is not easy to define. Methods of quantifying and qualifying satisfaction are still emerging in emergency medicine, and thirdly, emergency physicians care for the largest and most diverse patient population.<sup>23</sup> Getting an adequate number of responses is difficult as we need to fill the questionnaires on the spot in the ER and many patients cannot respond. Most of the time it is the

attendants responding whose judgment can be affected by various factors, including waiting times, facilities, communication, and access to the patient.<sup>24</sup> This is similar to literature defining a linear relation between understanding and patient satisfaction.<sup>25</sup> In another study in Iran similar results were seen where there was an association with satisfaction level; those who waited longer were less satisfied.<sup>26</sup> It is a fact that critical patients are treated immediately and less critical patients have to wait which can change their perspectives about the ER services. Our study includes a tertiary care hospital of Lahore. As it is a military hospital majority of the cases that present in the ER are of trauma which include more men (67.9%) than women (32.1%) which is in contrast to a previous study which surveyed

government run hospital where more than half of the respondents are female (58.0%) as compared to males (42.0%).<sup>16</sup> However, our male to female ratio (M:F) of patients is similar to a study conducted at CMH Malir which had a M:F ratio of 68:32 presenting in all departments including the ED.<sup>17</sup> The percentage of literate participants was 84.8 and 63.5% lived in urban areas which made it easier for them to access the hospitals All of them were employed. The age group that presented the most was 15-25 years which is 37.9%. This could be because young soldiers in training who get injured make up a major chunk of the daily patient influx in the ER. Our study focused on the patient satisfaction regarding services and care provided in the ER and not on wait times as it was conducted during the pandemic, unnecessary admissions were not done to avoid overcrowding. Most patients (81.6%) had easy access to the ER and 76.2% said ER was approachable from all sides. In our study, the attitude, behavior of doctors, nurses and support and their patient dealing with respect and dignity were satisfactory in the opinion of 86%, 86.3% and 82% respondents respectively. It is similar to a study conducted at a tertiary care government hospital of Lahore in 2017.<sup>19</sup> The patients who were satisfied with their recommended treatment plans were 73.7% but only 67.2% patients were explained about their treatment plan in detail. This decrease could be due to variations in patient dealings from doctor to doctor and on busy days serious patients are paid more attention than mild cases. Participants that said the doctors listened and understood their problems carefully were 81.6%. Patients who were satisfied with their examinations were 80.9%. Another factor contributing to patient satisfaction is the time a doctor spends with the patient in answering the patient's questions and explaining their management in detail.<sup>17</sup> In our study 58.5% patients agreed that doctors answered all their questions. They briefed them about any changes in their future management and 63.6% patients agreed doctors gave them information about their follow ups. These are

also similar to other national study results in Faisalabad.<sup>16</sup> Only 39.4% of patients agreed that the doctors told them about drug side effects, which is a low percentage. Considering the misuse of antibiotics, emerging drug resistance and the easy availability of many drugs over the counter, it is very important to make our public aware about the side effects of drugs. Patients were also satisfied with the cafeteria approach, waiting room facilities and the cleanliness though it could be improved as female patients did complain about dirty toilets. Limitation of this study is that it is a cross sectional carried over a 6 months. A study carried out over a longer period will give more accurate results. The sample size was small, a larger sample size can assess the patient satisfaction more accurately. Due to the pandemic, the patient influx was not as great as it was before the pandemic. Mild cases were refused or sent to OPDs to maintain SOPs, limiting our sample size. Many trauma patients present to CMH Lahore as it is a military hospital and those are served on the priority basis which might cause less critical patients to wait. As mentioned in the discussion this could change the patient's perception about the services and care.

## **CONCLUSION**

Overall, the patients were satisfied with the ER services and care. Surveys should be conducted every 3 weeks and regular feedback should be taken from the patients about the changes made. Cost Analysis should also be done since government, military and private hospitals have separate charging rates. As health care is already neglected in Pakistan and the region being a center of many epidemics, more focus should be given to the ER services and care as it is where most patients present for the first time in any hospital

## **Acknowledgments**

The authors would like to thank all those who participated enthusiastically for completing this research. We thank Madam Bushra Amin

for her help in data analysis and our supervisor Dr. Zainab Umer for her support and guidance in this project.

### Conflict of Interest

The authors declare that there is no conflict of interest.

### Funding details

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

### AUTHOR'S CONTRIBUTION

SKK: Literature search, data analysis, data interpretation and drafting

UB: Literature search, data analysis, data interpretation and drafting

SAK: Literature search, data collection and drafting

US: Literature search, data collection and drafting

RZH: Literature search, data collection and drafting

ZO: Overall supervision, study design, concept, questionnaire design, revision and final approval

### REFERENCES

- Batbaatar E, Dorjdagva J, Luvsannyam A, Savino MM, Amenta P. Determinants of patient satisfaction: a systematic review. *Perspect Public Health*. 2017 Mar;137(2):89-101. <https://doi.org/10.1177/1757913916634136>.
- Sughra U, Siddiqui M, Noorani S, Mansoor H, Kausar S. Patient Satisfaction: A Tool towards Quality Improvement: *PJO*. 2021 Feb 10;37(2). <http://doi.org/10.36351/pjo.v37i2.1150>
- Ng JH, Luk BH. Patient satisfaction: Concept analysis in the healthcare context. *Patient Educ Couns*. 2019 Apr 1;102(4):790-6. <https://doi.org/10.1016/j.pec.2018.11.013>.
- Fang J, Liu L, Fang P. What is the most important factor affecting patient satisfaction—a study based on gamma coefficient. *Patient Prefer Adherence*. 2019;13:515. doi: 10.2147/PPA.S197015.
- Hannawa AF, Wu AW, Kolyada A, Potemkina A, Donaldson LJ. The aspects of healthcare quality that are important to health professionals and patients: A qualitative study. *Patient Educ Couns*. 2022 Jun 1;105(6):1561-70. <https://doi.org/10.1016/j.pec.2021.10.016>
- Simpkin AL, Vyas JM, Armstrong KA. Diagnostic reasoning: an endangered competency in internal medicine training. *Ann. Intern. Med*. 2017 Oct 3;167(7):507-8. <https://doi.org/10.7326/M17-0163>.
- Ameh S, Gómez-Olivé FX, Kahn K, Tollman SM, Klipstein-Grobusch K. Relationships between structure, process and outcome to assess the quality of integrated chronic disease management in a rural South African setting: applying a structural equation model. *BMC health services research*. 2017 Dec;17(1):1-5. <https://doi.org/10.1186/s12913-017-2177-4>
- Ekaterina G, Stavros K, Anca M, Lambrini K. Measurement of patient satisfaction as a quality Indicator of hospital health services: the case of outpatient clinics in general hospital. *Science*. 2017 Mar;5(2):128-35. doi: 10.11648/j.sjph.20170502.10.
- Amarantou V, Chatzoudes D, Kechagia V, Chatzoglou PD. The impact of service quality on patient satisfaction and revisiting intentions: the case of public emergency departments. *Quality Management in Healthcare*. 2019 Oct 1;28(4):200-8. doi: 10.1097/QMH.0000000000000232.
- Sharew NT, Bizuneh HT, Assefa HK, Habtewold TD. Investigating admitted patients' satisfaction with nursing care at Debre Berhan Referral Hospital in Ethiopia: a cross-sectional study. *BMJ open*. 2018 May 1;8(5):e021107. <http://dx.doi.org/10.1136/bmjopen-2017-021107>.
- Rahim AI, Ibrahim MI, Musa KI, Chua SL, Yaacob NM. Patient satisfaction and hospital quality of care evaluation in malaysia using servqual and facebook. In *Health care 2021 Oct 14; 9(10): 1369*. <https://doi.org/10.3390/healthcare9101369>.
- Allenbaugh J, Corbelli J, Rack L, Rubio D, Spagnoletti C. A brief communication curriculum improves resident and nurse communication skills and patient satisfaction. *J Gen Intern Med*. 2019 Jul;34(7):1167-73. <https://doi.org/10.1007/s11606-019-04951-6>

13. Khanal MC, Karki L, Rijal B, Joshi P, Bista NR, Nepal B, Rana K, Lamichhane P. Patient satisfaction in doctor patient communication in a tertiary care hospital of Kathmandu: a descriptive cross-sectional study. *JNMA*. 2021 Apr;59(236):317. doi: 10.31729/jnma.6289
14. Silva PL, Paiva L, Faria VB, Ohl RI, Chavaglia SR. Triage in an adult emergency service: patient satisfaction. *Revista da Escola de Enfermagem da USP*. 2016 May;50:0427-33. <https://doi.org/10.1590/S0080-623420160000400008>.
15. Wang H, Kline JA, Jackson BE, Laureano-Phillips J, Robinson RD, Cowden CD, d'Etienne JP, Arze SE, Zenarosa NR. Association between emergency physician self-reported empathy and patient satisfaction. *PLoS one*. 2018 Sep 13;13(9):e0204113. <https://doi.org/10.1371/journal.pone.0204113>
16. Saleem S, Rao AS, Hannan N, Wahid A. The level of patient satisfaction in emergency departments of public sector tertiary care hospitals, faisalabad. *APMC*. 2018;12(1):34-9. <https://doi.org/10.29054/apmc/2018.156>.
17. Attiq S, Ali M, Shah M, Nawaz N. Real-Time Patient Satisfaction Survey In A Tertiary Care Hospital. *PAFMJ*. 2018 Aug 31;68(4):1042-49.
18. Naseer M, Zahidie A, Shaikh BT. Determinants of patient's satisfaction with health care system in Pakistan: a critical review. *PJPH*. 2012;2(2):52.
19. Qayyum S, Shafi Z, Ullah MR, Noor R. Level of Patient Satisfaction in Surgical Emergency Department of Mayo Hospital, Lahore—A Cross Sectional Survey Pak. *J. Med. Health Sci*. 2018 Jul 1;12(3):1227-9.
20. Hoonakker PL, Carayon P, Brown RL, Werner NE. A Systematic Review of the Consumer Emergency Care Satisfaction Scale (CECSS). *J Nurs Care Qual*. 2022 Oct 11;37(4):349-55. doi: <https://doi.org/10.1097/NCQ.0000000000000636>.
21. Woo BF, Lee JX, Tam WW. The impact of the advanced practice nursing role on quality of care, clinical outcomes, patient satisfaction, and cost in the emergency and critical care settings: a systematic review. *Hum Resour Health*. 2017 Dec;15(1):1-22. <https://doi.org/10.1186/s12960-017-0237-9>
22. Omer Z, Kahloon OI, Qazi FK, Arshad F, Naveed A, Aleem S, Ullah S. Comparison of patient satisfaction regarding accident and emergency department services between public and military hospitals of attock city. *J Khyber Coll Dentistry*, Mar 2022; 12.
23. Abass G, Asery A, Al Badr A, AlMaghlouth A, AlOtaiby S, Heena H. Patient satisfaction with the emergency department services at an academic teaching hospital. *J Family Med Prim Care*. 2021 Apr;10(4):1718. doi: 10.4103/jfmprc.jfmprc\_8\_20
24. Spechbach H, Rochat J, Gaspoz JM, Lovis C, Ehrler F. Patients' time perception in the waiting room of an ambulatory emergency unit: a cross-sectional study. *BMC emergency medicine*. 2019;19(1):41.
25. Johnson KD, Gillespie GL, Vance K. Effects of interruptions on triage process in emergency department: a prospective, observational study. *J Nurs Care Qual*. 2018 Oct;33(4):375. doi: 10.1097/NCQ.0000000000000314
26. Alrasheedi KF, Al-Mohaithef M, Edrees HH, Chandramohan S. The association between wait times and patient satisfaction: findings from primary health centers in the Kingdom of Saudi Arabia. *Health serv res manag epidemiol* 2019 Jul 8;6:2333392819861246. <https://doi.org/10.1177/2333392819861246>