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RESEARCH ARTICLE

SEVEN ASPECTS OF HEALTHCARE CUSTOMER SATISFACTION AND FACTORS AFFECTING IT WITHIN EMERGENCY DEPARTMENT

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ABSTRACT

OBJECTIVES:

This study aimed at investigating seven aspects, which are believed to be critical for healthcare customer satisfaction level, as well as determining underlying factors affecting them within the emergency department.

DESIGN:

A quantitative and cross-sectional study design, with deductive reasoning, was applied to undertake this study.
Setting: The study site involves different tertiary care private and public hospitals in Karachi, Pakistan.

MAIN OUTCOME MEASURES:

General satisfaction perspective was measured involving satisfaction with technical quality, interpersonal manner, communication, financial aspects, time spent with the doctor, and accessibility and convenience.

RESULTS:

Respondents were 61.6% male and 38.4% female with mean age 34.65±10.27 years. Most of the healthcare customers (54.6%) commuted to the healthcare facility by ambulance. 72.2% of respondents were from private and 27.8% were from public healthcare facilities while the majority (55.4%) visits to healthcare emergency services were due to injury or intoxication. In our study mean general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with the doctor, and accessibility and convenience were 3.11±0.34, 3.42±0.37, 3.42±0.43, 3.45±0.39, 3.31±0.42, 2.80±0.58 and 3.46±0.59 respectively. We found 52.6% of healthcare customers were satisfied with general aspects of service, 81.5% satisfied with technical quality, 80.50% satisfied with interpersonal manner, 82.5% satisfied with the communication, 66.3% satisfied with financial aspects, 20.4% satisfied with time spent with doctors and 75.7% satisfied with accessibility and convenience.

CONCLUSION:

General satisfaction with services was found to be at the lowest level, while the highest satisfaction level was with the "time spent with the doctor". Healthcare institutes need to be more attentive to the service encounter time spent with doctors and on general issues for healthcare customers visiting the ED.

KEYWORDS

healthcare management, healthcare quality, patient satisfaction, healthcare strategy, emergency department (ED).

INTRODUCTION

Patient satisfaction is considered to be vital for quality healthcare service delivery. [1] Therefore, the healthcare strategist has been preoccupied with improving the satisfaction level of patients. [2, 3] A critical and challenging domain of a tertiary care hospital to manage is the emergency department (ED). The other names of this department are emergency room (ER), accident and emergency department (A&E), emergency ward (EW), or accident ward (AW). It is a medical treatment facility that specializes in emergency medicine, and acute care of patients available without prior appointment, either by their own means or by ambulance. Hospital emergency departments (ED) are responsible for providing emergency healthcare services for anyone presenting with acute emergencies. Healthcare consumer satisfaction is an important issue for emergency services. Today, the number of inpatients in most emergency departments is greater than in outpatients. For many patients, the visit is the first visit to a specific emergency department. In addition, a quarter to half of all hospital patients usually comes through emergency departments. Therefore, emergency services are both the gateway and marketing vehicle for hospitals. [4] Regardless of the type of healthcare customer satisfaction, the emergency experience can influence decisions regarding the future use of a hospital and the hospital because the emergency encounter is brief, impersonal, and often emotionally charged. The nature of these interactions increases the potential risk of misapplication claims.

Healthcare customer satisfaction in the emergency department, therefore, becomes an important element in healthcare management, risk management and healthcare strategy as the competitiveness for the entire hospital requires the patients to be satisfied. It is generally accepted that satisfaction data plays an important role in the development of strategies and tactics by healthcare providers in providing healthcare to patients. In addition to the shortness and potential emotionality of the emergency visit, healthcare customers typically find the atmosphere and organization of the emergency department unfamiliar and often frightening. Critical and primary care patients share the same narrow spaces. Healthcare customer satisfaction and their families are not familiar with triage principles. [4,5]

Various instruments are used to measure patient satisfaction, such as SERVQUAL, EDQS, Press Ganey Survey, PSQ-III, and PSQ-18, which have been developed to measure the actual level of patient satisfaction.[3] This approach uses a system of questions and grades to assess the degree of satisfaction.

Healthcare customer satisfaction is a valuable tool and benchmark that is given due importance by both hospitals and policymakers in the western countries. Healthcare customer satisfaction depends on a number of factors and many studies have been conducted on this topic worldwide.[5] However, in Pakistan, the concept of healthcare customer satisfaction and health-care customer-centered care has emerged recently compared to other parts of the world and has failed to establish itself as a decisive factor in healthcare providers to date. It is generally accepted that satisfaction data plays an important role in the development of strategies and tactics by healthcare providers in providing healthcare to patients. In addition to its role in improving quality healthcare delivery, measuring patient satisfaction plays an important role in the increasing pressure for accountability among healthcare providers.

In recent years, there has been an increasing discussion on the participation of patients in the management and treatment of their problems. [3,6-7] Several studies have been conducted in Pakistan, some using standardized or tested PSQs and others using homemade criteria. [5, 7-10] and literature search revealed minimum amount of published material on this topic in Pakistan, especially among inpatients of an ED facility. The main objective of the current study is to determine the aspects of healthcare customer satisfaction level and factors affecting it for those visiting the emergency department by using a pre-validated PSQ-III. This study provides an opportunity for a broader generalization of results and is thus a useful tool for quality improvement policy.

METHODS

The objective of this study is to investigate seven aspects of healthcare customer satisfaction and determine the factors affecting them. Various tools are available for investigating customer satisfaction, such as SERVQUAL, EDQS, Press Ganey Survey, and PSQ-III. We chose to use PSQ-III due to its excellent validity, as reported by various

studies. In terms of factors affecting healthcare customer satisfaction, we employed the widely used Anderson model of healthcare satisfaction [12, 13]. This cross-sectional study was carried out with 834 healthcare customers of different healthcare institutes (hospitals) from 1st July 2021 to 15th January 2022 after approval from the board of advanced studies and research of the institute of business and health management (Approval# 304).

Data was collected after the oral consent of the patient/caregiver. Patients who are able to participate in interviews; be of both gender; and aged 18 years or above. Patients admitted via the emergency department were included in the study. Patients who were dead on arrival or patients died in the ED or who were in a serious condition and those who just arrived at the ED were excluded from the study. Moreover, if the patients were accompanied by different attendants, (as per Pakistani culture various relatives attend a single patient) such attendants were excluded in the study. Also, attendants not accompanying the patient at the time of ER treatment were not included in the study. Patients who were not emotionally of psychologically stable were excluded from the study.

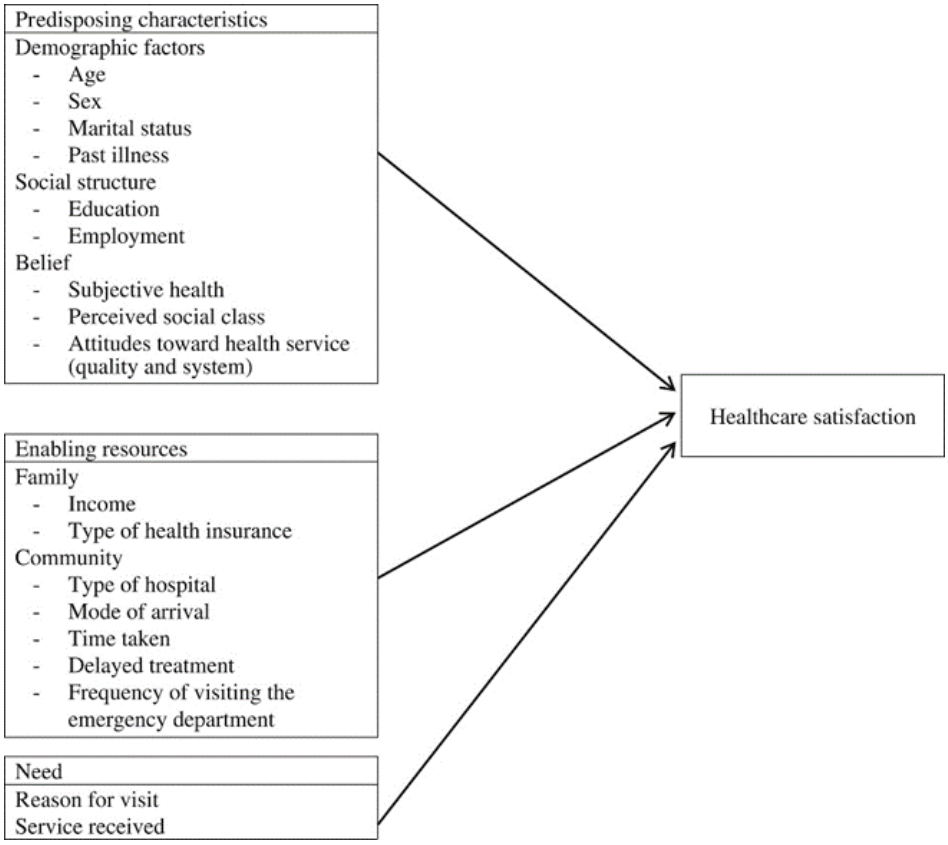
The questionnaire used to collect the data was divided into two segments: Section A for demographic data and Section B for assessing satisfaction with the Patient Satisfaction Questionnaire (PSQ-III). PSQ-III is an internationally validated, self-directed; 51-question questionnaire form developed by the RAND Corporation and is freely available in the public domain.[11]. Each question requires the patient to reflect on how much he/she agrees or disagrees with a given statement, while their answers are graded on a scale from 1 to 5; 1 is very dissatisfied and 5 is very satisfied. PSQ-III assesses seven areas of satisfaction: general satisfaction, technical quality, interpersonal relationships, communication, financial aspects, time with a doctor, and affordability and convenience. For all points, the score ranges from 1 (very dissatisfied) to 5 (very satisfied). The average score for each item was calculated in such a way that the higher it is, the higher the level of satisfaction on all items of PSQ-III. Reverse coding was done for PSQ1, PSQ3, PSQ5, PSQ7, PSQ9, PSQ11, PSQ13, PSQ15, PSQ18, PSQ20, PSQ22, PSQ24, PSQ26, PSQ28, PSQ29, PSQ31, PSQ33, PSQ35, PSQ37, PSQ39, PSQ41, PSQ1, PSQ56, PSQ47, PSQ49, PSQ50. To calculate the overall score in each area, we calculated the average point scores assigned to each area according to PSQ-III guidelines, which are given below:

General Satisfaction: PSQ3, PSQ33, PSQ42, PSQ21, PSQ11, PSQ49
Technical Quality: PSQ15, PSQ2, PSQ8, PSQ12, PSQ23, PSQ36, PSQ50, PSQ45, PSQ31, PSQ41
Interpersonal Aspects: PSQ29, PSQ47, PSQ39, PSQ17, PSQ26, PSQ34, PSQ9
Communication: PSQ6, PSQ18, PSQ13, PSQ38, PSQ43
Financial Aspects: PSQ14, PSQ4, PSQ27, PSQ10, PSQ44, PSQ24, PSQ32, PSQ19
Time Spent with doctors: PSQ46, PSQ35
Access/Availability/Convenience:
PSQ1,PSQ16,PSQ5,PSQ22,PSQ37,PSQ28,PSQ40,PSQ48,PSQ20,PSQ7,PSQ25,PSQ51

THEORETICAL FRAMEWORK

Andersen's behavioral model was developed to investigate the use of health services and the factors that influence access to health care. In the initial behavioral model, three domains that affect the use of health services were defined. Predisposing characteristics include demographics, social structure, and health beliefs. Enabling resources consist of personal and family resources and community resources. As the most immediate cause of health service use, need includes the perceived needs that are related to experiences of symptoms, pain, and worries about health, as well as the evaluated needs that are judged and diagnosed by healthcare professionals For the final model that was revised in 1995, customer satisfaction was included in the outcome. [12] The model has been used in many studies that investigated variations in the use of health services [13, 14]. Figure 1 depicts the application of this model to the current study.

FIGURE 1: CONCEPTUAL FRAMEWORK BASED ON ANDERSEN'S MODEL



STATISTICAL ANALYSIS

Data was entered and analyzed by IBM SPSS Statistics. Mean and Standard Deviation were calculated for quantitative data. Frequency and percentage were calculated for qualitative data. Odds were calculated by binary logistic regression. A p-value of less than 0.05 was considered as significant.

RESULTS

There was 61.6% male and 38.4% female respondents with a mean age 34.65±10.27 years. The majority of respondents were married (70.1%). Most of these health-care customers (54.6%) visited to healthcare facility via ambulance. 72.2% of respondents were from private and 27.8% were from public healthcare facilities. A majority (55.4%) of visits to healthcare emergency facilities was due to injury or intoxication. Detailed descriptive statistics of predisposing characteristics, enabling factors and the needs of the study population are presented in Table 1. We evaluated healthcare customer satisfaction through the Patient Satisfaction Questionnaire (PSQ-III). PSQ-III evaluates the seven areas of satisfaction: overall satisfaction, technical quality, interpersonal relationships/manners, communication, financial aspects, time spent with doctors, and accessibility and convenience. The reliability of the item were checked by Cronbach's Alpha which was 0.92, 0.74, 0.65, 0.85, 0.78, 0.73, 0.89 for general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with the doctor, and accessibility and convenience respectively.

In our study, mean general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with the doctor, and accessibility and convenience was 3.11±0.34, 3.42±0.37, 3.42±0.43, 3.45±0.39, 3.31±0.42, 2.80±0.58 and 3.46±0.59 respectively. We found 52.6% of healthcare customers satisfied with general aspects of service, 81.5% satisfied with technical quality, 80.50% satisfied with interpersonal manner, 82.5% satisfied with communication, 66.3% satisfied with financial aspects, 20.4% satisfied with time spent with doctor and 75.7% satisfied with accessibility and convenience aspects as presented in Table 2.

Binary logistics regression for general satisfaction shows that male customers are less likely to have general satisfaction in comparison to female customers (OR=0.898, p-value=0.898). The results of the analysis also showed that

customers with past illnesses are more likely to have general satisfaction in comparison of those who haven't. (OR=2.021, p-value=0.002).

Health care customers of private hospitals are more likely to have general satisfaction of services in comparison of public hospitals (OR=1.270, p-value=0.130). Detailed results of odds for general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with the doctor, and accessibility and convenience are presented in Table 3 to Table 6.

TABLE 1: PREDISPOSING CHARACTERISTICS, ENABLING FACTORS AND NEED OF STUDY POPULATION (N=834)

	Demographic factors	
Predisposing characteristics	Age(years) ,mean±SD	34.65±10.27
	Sex	
	Male, n (%)	433 (51.9)
	Female, n (%)	401 (48.1)
	Marital status	
	Married, n (%)	585 (70.1)
	Unmarried, n (%)	249 (29.9)
	Past illness	
	Yes, n (%)	427 (51.2)
	No, n (%)	407 (48.8)
	Social structure	
	Education	
	No Formal Education, n (%)	72 (8.6)
	Middle, n (%)	202 (24.2)
	Matric, n (%)	247 (29.6)
	Intermediate, n (%)	205 (24.6)
	Graduate or above, n (%)	108 (12.9)
	Employment	
	Unemployed, n (%)	233 (27.9)
	Employed, n (%)	601 (72.1)
	Belief	
	Subjective health	
	Good, n (%)	574 (68.8)
	Bad, n (%)	260 (31.2)
	Perceived social class	
	Low, n (%)	159 (19.1)
	Middle, n (%)	429 (51.4)

	Upper, n (%)	246 (29.5)
	Attitudes toward health service (quality)	
	Excellent, n (%)	426 (51.1)
	Not Good, n (%)	408 (48.9)
	Attitudes toward health service (System)	
	Generally operated well, n (%)	426 (51.1)
	Has many problems, n (%)	408 (48.9)
Enabling resources	**Family**	
	Income/year (PKR), mean±SD	521,597.12±240,118.65
	Health insurance	
	Yes, n (%)	448 (53.7)
	No, n (%)	386 (46.3)
	Community	
	Type of hospital	
	Private, n (%)	602 (72.2)
	Public, n (%)	232 (27.8)
	Mode of arrival	
	Rescue Centre or Ambulance, n (%)	455 (54.6)
	Personal Transport, n (%)	379 (45.4)
	Time taken in arrival (min), mean±SD	119.49±38.87
	Delayed treatment	
	Yes, n (%)	142 (17)
	No, n (%)	692 (83)
	Frequency of visiting ED,mean±SD	1.74±0.99
Need	**Reason for visit**	
	Injury or intoxication, n (%)	462 (55.4)
	Illness, n (%)	372 (44.6)
	Service received	
	Surgery or test, n (%)	440 (52.8)
	Non-surgical treatment, n (%)	394 (47.2)

SD: Standard Deviation

TABLE 2: SEVEN ASPECTS OF HEALTHCARE CUSTOMER SATISFACTION

Satisfaction Aspects	Mean	Standard Deviation	% Satisfied (S.A+A)
General Satisfaction	3.11	0.34	52.60
Technical Quality	3.42	0.37	81.50
Interpersonal Manner	3.42	0.43	80.50
Communication	3.45	0.39	82.50
Financial Aspects	3.31	0.42	66.30
Time Spent with Doctor	2.80	0.58	20.40
Accessibility and Convenience	3.46	0.59	75.70

S. A=Strongly Agree, A=Agree

TABLE 3: LOGISTIC REGRESSION ANALYSES OF THE THREE DOMAINS OF THE ANDERSEN MODEL FOR THE VARIABLES PREDICTING GENERAL SATISFACTION WITH SERVICES IN THE EMERGENCY DEPARTMENT (ED)

		General Satisfaction		
		p-value	Odds Ratio	95% CI
Predisposing characteristics	**Demographic factors**			
	Age	0.02	1.026	1.004-1.048
	Sex			
	Male	0.482	0.898	0.666-1.212
	Female		1	
	Marital status			
	Married	0.810	1.049	1.049-0.712
	Unmarried		1	
	Past illness			
	Yes	0.002	2.021	1.287-3.174
	No		1	
	Social structure			
	Education			
	No Formal Education	0.528	1.222	0.655-2.282
	Middle	0.32	0.783	0.484-1.267
	Matric	0.625	1.123	0.705-1.788
	Intermediate	0.737	0.921	0.569-1.489
	Graduate or above		1	
	Employment			
	Unemployed	0.367	0.859	0.617-1.195
	Employed		1	
	Belief			
	Subjective health			
	Good	0.609	1.095	0.774-1.549
	Bad		1	
	Perceived social class			
	Low	0.567	1.129	0.744-1.714
	Middle	0.637	1.084	0.776-1.512

	Upper		1	
	Attitudes toward health service (quality)			
	Excellent	0.625	1.083	0.787-1.492
	Not Good		1	
	Attitudes toward health service (System)			
	Generally operated well	0.026	1.378	1.039-1.828
	Has many problems		1	
	Nagelkerke R^2 =0.045, p-value=0.012			
Enabling resources	**Family**			
	Income per year	0.038	1.000	1.000-1.000
	Health insurance			
	Yes	0.648	1.066	0.809-1.406
	No		1	
	Community			
	Type of hospital			
	Private	0.130	1.270	0.932-1.729
	Public		1	
	Mode of arrival			
	Rescue Centre or Ambulance	0.446	0.898	0.680-1.185
	Personal Transport		1	
	Time taken in arrival (min)	0.894	1.000	0.997-1.004
	Delayed treatment			
	Yes	0.196	1.277	0.881-1.849
	No		1	
	Frequency of visiting ED	<0.001	0.777	0.676-0.894
	Nagelkerke R^2 =0.031, p-value=0.006			
Need	**Reason for visit**			
	Injury or intoxication	0.029	1.358	1.032-1.786
	Illness		1	
	Service received			
	Surgery or test	0.465	0.903	0.687-1.187
	Non-surgical treatment		1	
	Nagelkerke R^2 =0.009, p-value=0.067			

TABLE 4: LOGISTIC REGRESSION ANALYSES OF THE THREE DOMAINS OF THE ANDERSEN MODEL FOR THE VARIABLES PREDICTING COMMUNICATION AND FINANCIAL ASPECTS OF SATISFACTION

		Communication			Financial Aspects		
		p-value	**Odds Ratio**	**95% CI**	**p-value**	**Odds Ratio**	**95% CI**
Predisposing characteristics	Age	0.976	1	0.973-1.028	0.035	0.975	0.953-0.998
	Sex						
	Male	0.399	0.84	0.561-1.259	0.11	0.771	0.560-1.061
	Female			1		1	
	Marital status						
	Married	0.02	2	1.113-3.594	0.47	0.86	0.570-1.296
	Unmarried			1		1	
	Past illness						

	Yes	<.001	3.95	2.084-7.488	<.001	0.425	0.261-0.692
	No			1		1	
	Education						
	No Formal Education	0.426	1.458	0.576-3.688	0.533	1.232	0.640-2.373
	Middle	0.929	0.971	0.501-1.879	0.948	1.017	0.618-1.674
	Matric	0.496	0.807	0.435-1.497	0.99	0.997	0.617-1.610
	Intermediate	0.359	0.743	0.393-1.403	0.005	2.127	1.260-3.589
	Graduate or above			1		1	
	Employment						
	Unemployed	0.061	1.567	0.98-2.506	0.972	0.994	0.697-1.417
	Employed			1		1	
	Subjective health						
	Good	0.464	0.835	0.515-1.354	0.379	0.844	0.579-1.231
	Bad			1		1	
	Perceived social class						
	Low	0.570	0.848	0.481-1.497	0.009	0.553	0.355-0.861
	Middle	0.587	0.882	0.561-1.387	0.242	0.805	0.560-1.157
	Upper			1		1	
	Attitudes toward health service (quality)						
	Excellent	0.269	0.78	0.502-1.211	0.01	0.641	0.456-0.901
	Not Good			1		1	
	Attitudes toward health service (System)						
	Generally operated well	0.016	0.619	0.420-0.913	0.86	1.028	0.760-1.390
	Has many problems			1		1	
	Nagelkerke R^2=0.093, p-value=0.000				**Nagelkerke R^2=0.075 ,p value=0.001**		
Enabling factors	Income per year	0.707	1	1.000-1.000	0.052	1	1.000-1.000
	Health insurance						
	Yes	0.054	1.409	0.995-1.997	0.718	0.948	0.707-1.270
	No			1		1	
	Type of hospital						
	Private	0.797	0.95	0.645-1.401	0.249	1.209	0.875-1.671
	Public		1		1		
	Mode of arrival						
	Rescue Centre/Ambulance	0.549	1.113	0.784-1.581	0.051	0.745	0.555-1.001
	Personal Transport		1		1		
	Time taken in arrival (min)	<.001	0.991	0.986-0.996	0.983	1	0.996-1.004
	Delayed treatment						
	Yes	0.826	0.949	0.598-1.507	0.033	0.665	0.458-0.967
	No		1		1		
	Frequency of visiting ED	0.006	0.793	0.671-0.937	0.003	1.26	1.080-1.469
	Nagelkerke R^2=0.045, p-value=0.001				**Nagelkerke R^2=0.035, p=0.003**		
Need	**Reason for visit**						
	Injury or intoxication	0.459	1.145	0.800-1.639	0.956	1.008	0.755-1.347
	Illness		1		1		
	Service received						
	Surgery or test	0.194	1.267	0.886-1.813	0.062	0.759	0.568-1.014
	Non-surgical treatment		1		1		
	Nagelkerke R^2=0.004, p-value=0.335				**Nagelkerke R^2=0.006, p value=0.173**		

TABLE 5: LOGISTIC REGRESSION ANALYSES OF THE THREE DOMAINS OF THE ANDERSEN MODEL FOR THE VARIABLES PREDICTING ACCESSIBILITY/ACCESS AND INTERPERSONAL ASPECTS OF SATISFACTION

		Accessibility and Convenience			Interpersonal Manner		
		p-value	**Odds Ratio**	**95% CI**	**p-value**	**Odds Ratio**	**95% CI**
Predisposing characteristics	**Demographic factors**						
	Age	0.296	0.987	0.962-1.012	0.926	0.999	0.973-1.026
	Sex						
	Male	0.270	1.222	0.856-1.744	0.073	0.705	0.481-1.033
	Female		1			1	
	Marital status						
	Married	0.943	0.983	0.621-1.558	0.503	1.175	0.732-1.886
	Unmarried		1			1	
	Past illness						
	Yes	0.750	0.917	0.538-1.563	0.173	0.681	0.391-1.184
	No		1			1	
	Social structure						
	Education						
	No Formal Education	0.606	1.243	0.544-2.840	0.745	1.125	0.554-2.284
	Middle	0.875	0.952	0.520-1.745	0.096	1.624	0.917-2.875
	Matric	0.030	0.536	0.306-0.940	0.087	1.615	0.933-2.795
	Intermediate	0.128	0.636	0.355-1.140	0.007	2.267	1.254-4.098
	Graduate or above		1			1	
	Employment						
	Unemployed	0.361	0.832	0.560-1.235	0.001	0.523	0.353-0.773
	Employed		1			1	
	Belief						
	Subjective health						
	Good	0.217	1.305	0.855-1.991	0.986	0.996	0.645-1.538
	Bad		1			1	
	Perceived social class						
	Low	0.002	0.486	0.307-0.771	0.644	1.133	0.668-1.921
	Middle	0.239	1.272	0.853-1.898	0.832	1.046	0.688-1.590
	Upper		1			1	
	Attitudes toward health service (quality)						
	Excellent	<.001	0.46	0.310-0.681	0.627	0.906	0.609-1.348
	Not Good		1			1	
	Attitudes toward health service (System)						
	Generally operated well	0.28	0.832	0.595-1.162	0.499	0.884	0.619-1.263
	Has many problems		1			1	
	Nagelkerke R^2=0.083, p-value=0.083				**Nagelkerke R^2=0.060, P value=0.004**		
Enabling resources	**Family**						
	Income per year	0.001	1	1.000-1.000	0.707	1	1.000-1.000
	Health insurance						
	Yes	0.994	1.001	0.725-1.383	0.054	1.409	0.995-1.997
	No						
	Type of health insurance						

	Community						
	Type of hospital						
	Private	0.545	1.116	0.781-1.596	0.797	0.95	0.645-1.401
	Public		1			1	
	Mode of arrival						
	Rescue Centre/ Ambulance	<.001	0.531	0.380-0.740	0.549	1.113	0.784-1.581
	Personal Transport		1			1	
	Time taken in arrival (min)	0.666	1.001	0.997-1.005	<.001	0.991	0.986-0.996
	Delayed treatment						
	Yes	0.31	0.808	0.536-1.219	0.826	0.949	0.598-1.507
	No		1			1	
	Frequency of visiting ED	0.502	1.057	0.899-1.243	0.006	0.793	0.671-0.937
	Nagelkerke R^2=0.047, p-value=0.000				**Nagelkerke R^2=0.045, P-value=0.001**		
Need	**Reason for visit**						
	Injury or intoxication	0.217	0.817	0.593-1.126	0.801	0.956	0.677-1.352
	Illness		1			1	
	Service received						
	Surgery or test	0.619	0.923	0.672-1.267	0.037	1.442	1.022-2.033
	Non-surgical treatment		1			1	
	Nagelkerke R^2=0.003,p-value=0.416				**Nagelkerke R^2=0.008, p-value=0.107**		

TABLE 6: LOGISTIC REGRESSION ANALYSES OF THE THREE DOMAINS OF THE ANDERSEN MODEL FOR THE VARIABLES PREDICTING TIME SPENT WITH DOCTOR AND TECHNICAL QUALITY ASPECTS OF SATISFACTION

		Time Spent with Doctor			Technical Quality		
		p-value	**Odds Ratio**	**95% CI**	**p-value**	**Odds Ratio**	**95% CI**
Predisposing characteristics	**Demographic factors**						
	Age	0.963	1.001	0.976-1.026	<.001	1.058	1.029-1.089
	Sex						
	Male	0.613	0.907	0.622-1.323	0.001	2.01	1.324-3.05
	Female		1			1	
	Marital status						
	Married	0.075	1.642	0.952-2.831	<.001	2.576	1.525-4.353
	Unmarried		1			1	
	Past illness						
	Yes	0.035	0.551	0.317-0.958	<.001	4.125	2.209-7.702
	No		1			1	
	Social structure						
	Education						
	No Formal Education	0.569	1.242	0.589-2.618	0.761	1.133	0.506-2.539
	Middle	0.65	1.149	0.630-2.095	0.887	1.045	0.571-1.914
	Matric	0.277	1.376	0.774-2.446	0.085	1.733	0.928-3.238
	Intermediate	0.286	0.705	0.372-1.339	0.765	1.099	0.592-2.04
	Graduate or above		1			1	
	Employment						
	Unemployed	0.96	0.99	0.653-1.499	0.003	0.523	0.343-0.796

	Employed		1			1	
	Belief						
	Subjective health						
	Good	0.048	0.653	0.428-0.996	0.98	0.994	0.629-1.571
	Bad		1			1	
	Perceived social class						
	Low	0.799	0.928	0.523-1.648	0.07	1.653	0.96-2.846
	Middle	0.052	1.525	0.996-2.336	0.032	1.614	1.042-2.500
	Upper		1			1	
	Attitudes toward health service (quality)						
	Excellent	0.805	1.053	0.700-1.582	0.908	0.976	0.643-1.480
	Not Good		1			1	
	Attitudes toward health service (System)						
	Generally operated well	0.708	0.935	0.656-1.332	0.079	1.401	0.962-2.040
	Has many problems		1			1	
	Nagelkerke R^2=0.093, p-value=0.000				**Nagelkerke R^2=0.119, p-value=0.000**		
Enabling resources	**Family**						
	Income per year	0.757	1	1.000-1.000	0.049	1	1.000-1.000
	Health insurance						
	Yes	0.601	0.913	0.650-1.283	0.606	1.097	0.771-1.562
	No		1			1	
	Community						
	Type of hospital						
	Private	0.303	1.228	0.831-1.817	0.949	1.013	0.681-1.507
	Public		1			1	
	Mode of arrival						
	Rescue Centre/Ambulance	0.842	1.035	0.736-1.457	0.098	0.737	0.514-1.058
	Personal Transport		1			1	
	Time taken in arrival (min)	0.685	1.001	0.996-1.005	0.834	1	0.996-1.005
	Delayed treatment						
	Yes	0.043	0.591	0.356-0.983	0.096	0.69	0.445-1.068
	No		1			1	
	Frequency of visiting ED	0.438	0.933	0.782-1.112	0.807	0.978	0.819-1.168
	Nagelkerke R2=0.013, p-value=0.434				**Nagelkerke R2=0.020, p-value=0.178**		
Need	**Reason for visit**						
	Injury or intoxication	0.974	0.994	0.709-1.396	0.194	1.262	0.889-1.791
	Illness		1			1	
	Service received						
	Surgery or test	0.905	0.98	0.699-1.373	0.644	0.92	0.648-1.308
	Non-surgical treatment		1			1	
	Nagelkerke R2=0.000, p-value=0.992				**Nagelkerke R2=0.004, p-value=0.381**		

DISCUSSION

This research was undertaken in order to examine healthcare customer satisfaction and factors that affect healthcare customer satisfaction within emergency department (ED) services and their attendance from the viewpoint of patients. The current study was pursued in order to inspect how demographic factors (for instance age, gender, marital status, and past illness), and social structure (for instance education and employment status)

have a relationship with satisfaction level. Furthermore, we investigated the beliefs (for instance patient health, perceived social class, attitude towards health service) in association with family resources (such as income and health insurance) by considering, as an effective factor measure, customer (patient) satisfaction in conjunction with general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with the doctor, and accessibility and convenience of patient's visiting the ED of hospitals .

The extracted results from this research show that patient satisfaction was extremely affected by the technical quality, interpersonal manner, communication, and financial aspects of a hospital. In the context of Pakistan, the emergency department holds less technical quality, a common lack of professionalism, a lack of awareness concerning the ED's rules and responsibilities, a lack of interpersonal communication, and the execution of the attendants' duties.[12] When results are compared with Sultan et al., [16], it can be seen that attitude and behavior of the healthcare providers were good but some basic facilities in the emergency department, such as safe drinking water, general sanitary, and lacking availability of telephone, were some of the necessities missing.

These are the core aspects that negatively influenced the quality of ED's service provided by Hospitals. Although by focusing on tertiary care hospitals it can be stated that the overall patient satisfaction level was comparable with the hospitals existing in European countries. Although, the results as per the domain of responsiveness in the survey, the majority of patients reported that they never asked regarding the quality of provided care services. Also mention these as major factors which are responsible for patient dissatisfaction within the private tertiary care hospital in Karachi, Pakistan.[17] This provided evidence that there is no conception of patient involvement and autonomy in the treatment decisions in both private as well as public hospitals. The information that ED attendants deliver to the patients is inadequate, which directs to deficient communication among doctors and patients. This is the reason that patients investigated in this study are extremely concerned with finding good ED services instead of public hospitals. Supporting the results, was Sughra et al., who claimed that patients satisfaction was lowest in terms of technical quality and time spent with doctors. Therefore, they need to focus on these perspectives to improve patient satisfaction. [18]

For several years, technology has been employed in the practices of health care especially in ED which involves as a method of new diagnostic tools (for instance stethoscopes) or laboratory investigations. However, the research of Messina et al., reported that two characteristics significantly influence the overall satisfaction of the patients that include receiving continuous information from healthcare providers about the delay and waiting time for examination as the second one. Hence, these results are different from this one, where quality staff came out to be an important parameter.[19] Regarding the emergency services available in a tertiary care hospital, patients encounter problems, for instance in the environment which is non-hygienic, fake or late results, uncompetitive attendants, and a significant communication gap. It is these causes that ED services and their associated factors directly affect patient satisfaction. The dominant concerns are further emphasized and discussed about other hospitals of the country. The current research study fulfills the gap that was identified in the review of the literature through assessing patient satisfaction in relation to emergency services, physical facilities and communication among doctors and patients. Physical facilities and communication among doctors and patients have an influence on the level of patient satisfaction but not much as emergency services in Pakistan.[20] The patient's satisfaction in the ED holds a much smaller influence on satisfaction levels which is evidenced through different earlier studies conducted in Pakistan and India. Those earlier research shows that physical facilities do have not a significant connection with the patient's satisfaction. For example, the systematic literature review of Salehi et al., revealed that patient attribute factors, such as expectations, health status, and socio-economic and demographic influence their satisfaction. [21]

In terms of sustainability within the relevant healthcare industry, the hospital should have to make severe decisions in order to solve these issues regarding the physical infrastructure of Eds. This involves the formation of transparent policies, an endowment of increased funding for technology and the physical infrastructure of ED also involve all the allied stakeholders in the making of a decision. The administration of the hospital should collaborate with the ED and its attendants for making the inclusion of technology as much as possible in emergency room. [20]

Contradicting with the results, Salehi A et al., [21] claimed that patient satisfaction depends on many things. For example patients were found to be satisfied with general facility amenity, good quality services, availability of laboratories and rooms and dietary services provided to them. Moreover, digitized records of the hospital in order to reduce any kind of delays and congestion within the emergency services. [22] Through the survey conducted, it has resulted in understanding that patient experience and factors influencing satisfaction are further related to the structure of the hospital's ED measured through depending on the immediate availability of treatment, room cleanliness, and bed's availability. These influence the patient's satisfaction Pakistan.[20] Inaccessibility of beds, long waiting and arrival time for treatment, unavailability of attendants and doctors, and deficiency of basic amenities are the main components that lead to patient dissatisfaction.[23]

Patient-centeredness is associated with several factors such as technical quality, interpersonal manner, communication, financial aspects, time spent with the doctor, accessibility, a lack of attendants, and convenience were measured and discovered to be positively allied with their satisfaction. Supporting these results, Farooq et al., claimed that patient satisfaction was found better in CMH Hospital in 6 out of 7 domains. Those were, general satisfaction, communication, time spent with doctors, convenience, interpersonal manner, financial aspects, and accessibility. [24]

Therefore, the results highlight some other perspectives in this study that should be investigated in the future. Interventional research was executed in Karachi which displayed that 34 % of patient's level of satisfaction at the standard increased to up to 80 % within the period of one year after interventions. [23] This essentially aimed at enhancing doctors' and attendants' skills of communication, knowledge, and institution of the concept of quality care in the provision of healthcare services. In association with these results and through this present research determines that analysts of patient dissatisfaction with emergency services specify that technical quality, interpersonal manner, communication, financial constraints, time spent with the doctor, accessibility, blackness of attendants, and convenience are the main predictors.

CONCLUSION

General satisfaction with services was at the lowest level while the highest satisfaction level was found in relation to the time spent with the doctor. We would suggest to hospitals and healthcare managers that they have more focus on emergency services as EDs are gateways to hospitals for most of the healthcare customers or their attendants. We suggest healthcare institutes be more attentive to time spent with doctors and on general issues of healthcare customers visiting ED.

LIMITATIONS AND FUTURE RESEARCH DIRECTION

The current study was conducted using a pre-validated tool e.i. PSQ-III. However, the same study may be extended to use other quality and patient satisfaction measurement tools, especially in Pakistani or other emerging economies' context. Also, a more insightful study may be undertaken with a quality research design in the future. The limited study duration was a limitation of our study. Therefore, the rigor may be improved using an extended time frame.

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