Global Scientific JOURNALS

GSJ: Volume 7, Issue 4, April 2019, Online: ISSN 2320-9186
www.globalscientificjournal.com

DETERMINANTS OF PATIENT SATISFACTION AT PUBLIC SECTOR HOSPITALS OF KARACHI

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ABSTRACT

Objective:
This research article was aimed at finding out influence of various factors including physician and paramedic interaction, waiting time, diagnostic processes and hygienic conditions on patient satisfaction.

Study Design:
The study is explanatory is nature. Deductive approach was adopted whereby hypotheses were formulated followed by preparation of a well-structured questionnaire for data collection.

Methodology:
Responses of 152 patients admitted in different departments of Abbasi Shaheed and Jinnah Hospitals were obtained. Patients who were admitted during 12 to 26 June 2017 were approached by adopting convenience sampling technique. To analyze the data, statistical tools, Pearson's Correlation (to examine relationship of variables) and Regression (to test impact of IVs on DV) were used, with the help of Statistical Package for Social Sciences (SPSS), version 22.

Results:
Results have revealed that out of the five independent variables, two (Paramedics Interactions and Hygienic Conditions) have significant impact on patient satisfaction since p value is less than .05 whereas remaining three (Physician Interaction, Waiting Time and Diagnostic Processes) do not have significant impact of patient satisfaction as p value is greater than .05 (Table-8). Besides, Correlation analysis indicates that all variables have varying degree of positive relationship with patient satisfaction.

Keywords: Patient Satisfaction, Physician Interaction, Hospital Services, Hospital Management, Paramedics Interactions.

1. Introduction

Patient satisfaction is an important consideration for overall quality healthcare in the health sector. Image of a hospital is gauged through satisfaction of its patients. Although patient satisfaction plays a significant role in reputation of the hospitals, it is usually neglected by the healthcare providers. It has been identified through many studies that satisfied patients are likely to develop loyalty towards a particular hospital and would always prefer it for future medical treatment. Patient satisfaction provides a realistic idea about the extent to which health industry is meeting the patient needs and expectations [1,2]. Measurement of patient satisfaction is necessary because it is being observed in many studies that patient react according to the level of satisfaction; the more satisfied patients are with services of a particular hospital, there are chances that they will prefer the same health care facility again. Conversely, dissatisfied or less satisfied patients are not likely to revisit a particular health care facility and would switch over to an alternate healthcare facility. Management should focus on creating lasting trustworthy customers by meeting their expectations. According to Moret et al., it is the prime duty of health care providers to take care of the patient needs and work towards their overall satisfaction. Patients need emotional support, care and proper information about their present health condition and the likely procedure to be adopted for improving their physical health [3]. Although Pakistani hospitals are providing continuous healthcare services but there is a little focus on patient satisfaction. Especially, public

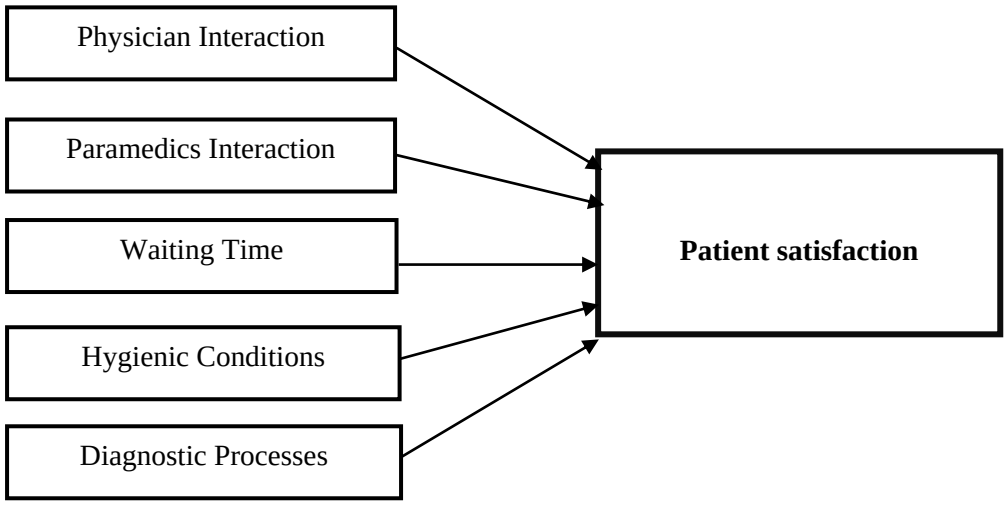
sector hospitals spend huge amount on latest technology, infrastructure and highly qualified medical staff but little attention is paid towards the patients' satisfaction which paints a poor image of these medical facilities [4].

According to Soleimanpour et al., patient satisfaction depends on four key elements, that include physician to patient interaction, paramedics/nursing care, waiting time and diagnosis procedures [5]. Hygienic conditions at the hospitals are also a source of great satisfaction for the patients. Especially in case of the mothers who are looking for a health care facility to give birth to their children, hygienic conditions are of great significance. Good hygienic conditions can always decrease the maternal and neonatal mortality rate thus increase the surviving rate of the patient, which is a good indicator towards the hospital quality care. The lower the mortality rate of the health care facility the higher the esteem of the hospitals among the other patients and hospital will remain proficient in the health care industry. Health care facilities are now working towards improving the maternal and neonatal health through implementing different programs and huge focus is paid to the hygienic condition of the environment [6].

Diagnostic process is another most important and growing area in health care industry. Accurate and timely diagnostic procedures not only help out the physician in diagnosis or treatment but also link to the better health outcome. Diagnostic process and patient satisfaction is directly related to the positive behavior of diagnostic staff with the patient. Patients feel more comfortable if duty staff receives them respectfully and attends them without any delay. Patients need to be kept informed of the diagnosis process and also about the possible delay, if any. High level of patient satisfaction is achieved when the staff informed the patient about the procedure and patient-centered approach is being followed. Patients were more satisfied when they were given a financial estimation of their diagnostic processes before conducting the diagnostic test, especially those patients who are not medically insured. Highly trained technical staff and less waiting time for the diagnostic procedure also leads to patient satisfaction that has a positive impact on health care facility [7].

2. Theoretical Framework

On the basis of research variables, following theoretical framework was developed:



3. Research Objectives

Following are the research objectives:

- To identify the factors that result into satisfaction of patients.
- To examine the relationship of various factors on satisfaction of patients.
- To test the impact of various factors on satisfaction of patients.
- To propose measures for further improving satisfaction level of patients.

4. Research Hypotheses

Following hypotheses have been tested in this paper:

H1: Physician interaction has a significant impact on patients' satisfaction.

H2: Paramedic interaction has a significant impact on patients' satisfaction.

H3: Waiting time has a significant impact on patient's satisfaction.

H4: Diagnostic process has a significant impact on patients' satisfaction.

H5: Hygienic condition has a significant impact on patients' satisfaction.

5. METHODOLOGY

After approval from Ethical Review Committee of Bahria University Karachi Campus, this study was conducted at Abbasi Shaheed and Jinnah Hospitals located in the city of Karachi. Deductive approach was adopted whereby hypotheses were first developed after thorough review of relevant literature, followed by preparation of a research instrument. Five IVs, including Physician interaction, Paramedic interaction, Waiting time, Hygienic condition and Diagnostic process were selected for checking their impact on Dependent Variable (Patient Satisfaction). Total number of patients admitted in different wards of the two hospitals were around 400 (target population). A total of 107 patients, both male and female of varying ages, were accessed on the basis of their availability and health condition. Informed consent was obtained from all the patients. Sample size (107) was calculated online using Monkey survey. Non-probability, convenience sampling technique was adopted for accessing respondents [8]. Primary quantitative data were collected with the help of a questionnaire, on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree). Statistical tools used for statistical analysis included Pearson correlation and Regression. Further analysis was done with the help of SPSS software version 22.

6. Results

6.1. Respondents' Profile Analysis

The characteristics of respondents include Gender, Age group, Profession and Experience (in years) which are explained in tables 1 to 4.

Table 1: Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	68	63.6	63.6	63.6

	Female	39	36.4	36.4	100.0
	Total	107	100.0	100.0	

The information in the above table shows that maximum respondents were male respondents and female respondents were less. Male respondents were 68 (63.6%) and Male respondents were 39 (36.4%).

Table 2: Age Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	22-30	36	33.6	33.6	33.6
	31-40	64	59.8	59.8	93.5
	More than 40	7	6.5	6.5	100.0
	Total	107	100.0	100.0	

Table 2 shows the Age Groups of the respondents. 33.6% are between 22-30 years, whereas 59.8% lie in between 31-40 years of age, 6.5% are more than 40 years old.

Table 3: Positions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Doctor	18	16.8	16.8	16.8
	Head Nurse	34	31.8	31.8	48.6
	Nursing Aid	19	17.8	17.8	66.4
	Lab Technician	11	10.3	10.3	76.6
	House Keeping Staff	18	16.8	16.8	93.5
	Others	7	6.5	6.5	100.0

	Total	107	100.0	100.0	

Table 3 shows that out of 107 respondents, 16.8% were Doctors, 31.8% were Head Nurses and Nurses, 17.8% were Nursing Aids (Assistants), 10.3% Laboratory Technicians and 16.8% housekeeping staff and 6.5 % other staff members.

Table 4: Job Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 2 years	7	6.5	6.5	6.5
	2-5 years	40	37.4	37.4	43.9
	6-10 years	47	43.9	43.9	87.9
	more than 10 years	13	12.1	12.1	100.0
	Total	107	100.0	100.0	

The respondents' data displayed in the table 4 indicates that 6.5% have less than two years of experience, 37.4% have 2-5 years of experience, 43.9% have 6-10 years of experience and 12.1% are having more than 10 years of job experience.

6.2. Pearson's Correlation

Relationship of independent and dependent variables has been presented in table 5.

Table 5: Pearson's Correlation

		PI	PMI	WT	HC	DP	PS
PI	Correlation	1					
	Sig. (1-tailed)						
	N	107					
PMI	Correlation	.022	1				
	Sig. (1-tailed)	.395					

	N	107	107				
WT	Correlation	.112	.572**	1			
	Sig. (1-tailed)	.087	.001				
	N	107	107	107			
HC	Correlation	.055	.592**	.623**	1		
	Sig. (1-tailed)	.250	.001	.000			
	N	107	107	107	107		
DP	Correlation	.121	.247**	.334**	.256**	1	
	Sig. (1-tailed)	.070	.001	.000	.001		
	N	107	107	107	107	107	
PS	Correlation	.019	.477**	.446**	.472**	.255**	1
	Sig. (1-tailed)	.409	.000	.000	.001	.000	
	N	107	107	107	107	107	

**Correlation is significant at the 0.01 level (1-tailed)

6.3. Regression analysis statistics

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.553[a]	.305	.281	.48613

a. Predictors: (Constant), Diagnostic Processes, Physician Interaction, Paramedics Interaction, Hygienic Condition, Waiting time

Table 7: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	14.964	5	2.993	12.664	.000[b]
	Residual	34.030	144	.236		
	Total	48.993	149			

a. Dependent Variable: Patient Satisfaction

b. Predictors: (Constant), Diagnostic Processes, Physician Interaction, Paramedics Interaction, Hygienic Condition, Waiting time.

Table 8: Co-efficient Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.020	.303		3.362	.001
Physician Interaction	.026	.070	-0.26	-.365	.716
Paramedics Interaction	.180	.067	.245	2.689	.008
Waiting Time	.119	.080	.143	1.486	.140
Hygienic Conditions	.146	.065	.214	2.242	.026
Diagnostic Processes	.072	.056	.095	1.272	.205

a. Dependent Variable: Patient Satisfaction

7. Discussion

7.1. Relationship between Physician Interaction and Patient Satisfaction

Our results show that the correlation value of first variable (r), as depicted in table 5 is .019 which shows a weak but insignificant relationship between Physician Interaction and Patient Satisfaction as p value is .40 which is >.05.

7.2. Relationship between Paramedics Interaction, Hygienic Conditions, Diagnostic Processes and Patient Satisfaction

For the second variable, correlation value (r) is .477; it indicates that the relationship between Paramedics Interaction and Patient satisfaction is moderate which is consistent with previous studies [9] and significant as p value is .000 (<.05). For third variable, the r value is .446, significant value = .000. For the fourth variable, the r value is 0.472 which indicates the relationship of Hygienic Conditions and Patient Satisfaction is moderate, significant value is .000 which is less than .05. For next variable, the r value is 0.255 which reflects that relationship between Diagnostic Processes and Patient Satisfaction is weak but it is significant as p value is .001 (<.05).

The values in table 6 (model summary) determine how well a regression model fits the data. The value of R is 0.553 which indicates a moderate level of prediction. The value of R Square is 0.305 and it tells that this model explains 30% variation of all independent variables in the dependent variable. The value of adjusted R Square is 0.281 and the Std. error of the estimate is .48613.

7.3. Positive Correlation of Independent Variables with Patient Satisfaction

ANOVA is used to compare differences of means among more than two groups. Table 7 shows that the all independent variables statistically significantly predict the patient satisfaction which is dependent variable; F = 12.664 at the significance level of .000 (p < .005). The findings of our research work match with the previous research work [10].

7.4. Statistical Results Supporting/Negating Influence of Independent Variables on Patient Satisfaction

As depicted in table 8, 'Sig' values predict significance of the variables and their usefulness. In case of first variable i.e. physician interaction, the p value is .716 which is greater than .05; it means that this variable is not useful but impact of physician interaction on patient satisfaction is not significant. The p value of the second independent variable 'paramedics' interaction' is .008 which is less than 0.05; this variable is a useful and it creates positive impact on patient satisfaction [11]. The p value of third independent variable "waiting time" is .140 which is greater than 0.05; this variable is also not useful and has no significant impact on satisfaction

of patients. Fourth independent variable 'hygienic conditions' has the p value of .026 (< .05); it shows that this variable is useful and has a positive impact on patient satisfaction [12]. The p value of fifth and last independent variable is .205 (>.05); so this variable is also not useful and does not have any positive impact on patient satisfaction [13]. The data analysis has revealed that out of five hypotheses developed for testing, two have been accepted whereas remaining three have been rejected.

8. Conclusion

This study has identified some factors and examined their relationship with and impact on patient satisfaction in public sector hospitals. The results indicate out of the 5 factors, two IVs i.e. paramedics' interaction and hygienic conditions have significant positive impact on patient satisfaction. However, physicians' interaction, waiting time and diagnostic processes have weak relationship and their impact on patient satisfaction is not significant. This is in line with a similar study done in a public sector hospital in the city of Karachi [14]. Physician interaction has a weak relationship with patient satisfaction because patients were generally dissatisfied with the overall hospital facilities and services. Waiting time also has a low impact on patient satisfaction as they are required to wait quite longer than expected time to see the doctor [15, 16]. Diagnostic processes are also assumed to be lengthy and complicated. Since overall influence of all independent variables on patients' satisfaction is only 30%, there is a need to explore more related variables responsible for patients' satisfaction, through another study.

Conflict of Interest:

The authors declare no conflicts of interest.

Acknowledgements:

Authors would like to thank the management staff of hospitals under study for support to carry out the present study.

Funding:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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