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A Study on Patient Perceptions towards Service Quality of Teaching Hospitals: With Special Reference to Central Gujarat Region

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ABSTRACT
The aim of this research was to study the level of satisfaction in hospital with regards to demographic factors like Age, Gender, education, etc. The teaching hospitals were chosen for conducting the research because most of the studies on service quality in the hospital/healthcare sector were conducted in private/commercial hospital. So, there was a need to analyze the perception of patients toward teaching hospitals. All the patients who are admitted for more than two days in Surgery and Medicine ward between July 2020 and September, 2020.The sampling method used for this study is stratified random sampling. From historical data it was found that average IPD admissions in selected ward as per inclusion criteria of the study is 72 admissions. Thus, the calculated sample size based on following formula was 60. It was found that There is significant difference found out between satisfaction of patients related with daily round of Doctors of medicine ward and surgery ward. People from surgery ward are less satisfied with round of Doctors'.In Nursing Care There is significant difference found out between satisfaction of patients related with handling problem of patients and Keeping Privacy of Patient of male and female and females are less satisfied with this attribute.
Keywords: Central Gujarat, Hospital Qual, Patient Satisfaction, Teaching Hospitals

INTRODUCTION
Patient Satisfaction can be understood as fulfillment or meeting of expectations of patients from healthcare services. When a patient comes to a hospital, he has a pre-set image of the various aspects of the hospital as per the reputation and cost involved. Although their main expectation is getting cured and going back to their work, there are other factors that affect their satisfaction [1-3]. Sometimes they might have rated a hospital very low on the basis of information they have got from different sources, but they find it above their expectation, and they are satisfied. Similarly, if they have got a very high expectation from a hospital, but if they find it below their expectation, they will not be satisfied [10].
The objective of the study was to study the level of satisfaction in hospital with respect to demographic factors like Age, Gender, education. Among the selected wards of teaching hospitals.

MATERIAL AND METHODS
Research Design:
The research design is descriptive in the present study
Sampling:
Population:
All the patients who are admitted for more than two days in Surgery and Medicine ward between July 2020 and September, 2020.The sampling method used for this study is stratified random sampling. From historical data it was found that average IPD admissions in selected ward as per inclusion criteria of the study is 72 admissions. Thus, the calculated sample size based on following formula is 60.

$$\text{Sample Size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + (\frac{z^2 \times p(1-p)}{e^2 N})}$$

Where,

N = Population Size i.e., 72 for this study, e = Margin of error i.e., 5% in this study, z = z-score i.e., 1.96 at 95% confidence interval for this study. Response from total 60 participants (30 in medicine and 30 in surgery) was collected as sample.

RESULTS AND DISCUSSION
Analysis of Satisfaction Level for Doctors' Care for Patients

The Null Hypothesis (H_0) for the same is "There is no significant difference in satisfaction level (related with overall Doctors'' care and nine attributes of Doctors'' care) between male and female patients."

Table: 1: Mann-Whitney Test Analysis for Doctors' care with respect to Gender

Attributes	Gender	N	P Value* (2 Tail)
Investigation done by Doctor	Male	35	**.039**
	Female	25	
	Total	60	
Time spent by Doctors'	Male	35	.959
	Female	25	
	Total	60	
Explanation of treatment & its effectiveness	Male	35	.493
	Female	25	
	Total	60	
Allow patients to ask questions and responding questions of patients	Male	35	.290
	Female	25	
	Total	60	
The courtesy and respect (friendliness, kindness) shown	Male	35	.367
	Female	25	
	Total	60	
Doctor Availability at Odd Hours	Male	35	.987
	Female	25	
	Total	60	
The daily rounds of Doctors'	Male	35	.174
	Female	25	
	Total	60	
Availability of Doctors' when called	Male	35	.850
	Female	25	
	Total	60	
The privacy of patients maintained	Male	35	.305
	Female	25	
	Total	60	
Overall Satisfaction (Median) for Doctors' care	Male	35	.908
	Female	25	
	Total	60	

From above table, it is observed that P Value is significant (less than 0.05) only in case of one attribute i.e. investigation done by Doctors'. Hence, we reject the null hypothesis. In other eight attributes, P Value is not significant and hence null hypothesis is failed to reject. Even P Value is not significant in Overall Satisfaction (Median) for Doctors' care.

Table 2: Mann-Whitney Test Analysis for Doctors' care with respect to Wards

Attributes	Gender	N	P Value* (2 Tail)
Investigation done by Doctors'	Surgery	30	
	Medicine	30	.083
	Total	60	
Time spend by Doctors'	Surgery	30	
	Medicine	30	.083
	Total	60	
Explanation of treatment & its effectiveness	Surgery	30	
	Medicine	30	.698
	Total	60	
Allow patients to ask questions and responding questions of patients	Surgery	30	
	Medicine	30	.552
	Total	60	
The courtesy and respect (friendliness, kindness) shown	Surgery	30	
	Medicine	30	.552
	Total	60	
Doctor Availability at Odd Hours	Surgery	30	
	Medicine	30	1.000
	Total	60	
The daily rounds of Doctors'	Surgery	30	
	Medicine	30	**.002**
	Total	60	
Availability of Doctors' when called	Surgery	30	
	Medicine	30	.858
	Total	60	
The privacy of patients maintained	Surgery	30	
	Medicine	30	.464
	Total	60	
Overall Satisfaction (Median) for Doctors' care	Surgery	30	
	Medicine	30	.410
	Total	60	

From above table, it is observed that P Value is significant (less than 0.05) only in case of one attribute i.e., Daily round by Doctors'. Hence, we reject the null hypothesis. In other eight attributes, P Value is not significant and hence null hypothesis is failed to reject. Even P Value is not significant in Overall Satisfaction (Median) for Doctors'' care.

KRUSKAL WALLIS TEST FOR COMPARING SATISFACTION AMONG PATIENTS OF DIFFERENT AGE GROUP

The Null Hypothesis (H_0) for the same is "There is no significant difference in satisfaction level (related with overall Doctors'' care and nine attributes of Doctors'' care) between patients of different age group."

Table 3: Kruskal Wallis Test analysis of Doctors' care with respect to Age

Attributes	Age	N	P Value* (2 Tail)
Investigation done by Doctors'	18-35	16	
	36-50	20	.575
	51-65	24	
	Total	**60**	
Time spend by Doctors'	18-35	16	
	36-50	20	.148
	51-65	24	
	Total	**60**	
Explanation of treatment & its effectiveness	18-35	16	
	36-50	20	.264
	51-65	24	
	Total	**60**	
Allow patients to ask questions and responding questions of patients	18-35	16	
	36-50	20	.906
	51-65	24	
	Total	**60**	
The courtesy and respect (friendliness, kindness) shown	18-35	16	.937

	36-50	20	
	51-65	24	
	Total	**60**	
Doctor Availability at Odd Hours	18-35	16	.197
	36-50	20	
	51-65	24	
	Total	**60**	
The daily rounds of Doctors'	18-35	16	.982
	36-50	20	
	51-65	24	
	Total	**60**	
Availability of Doctors' when called	18-35	16	.348
	36-50	20	
	51-65	24	
	Total	**60**	
The privacy of patients maintained	18-35	16	.406
	36-50	20	
	51-65	24	
	Total	**60**	
Overall Satisfaction (Median) for Doctors' care	18-35	16	.261
	36-50	20	
	51-65	24	
	Total	**60**	

From above table, it is observed that P Value is not significant in any of the attribute and Overall Satisfaction (Median) for Doctors' care and hence null hypothesis is failed to reject in all nine attributes and Overall Satisfaction (Median) for Doctors' care.

Analysis of Satisfaction Level for Nursing Care

The Null Hypothesis (H0) for the same is "There is no significant difference in satisfaction level (related with nursing care and its eleven attributes) between male and female patients."

Table 4: Mann-Whitney Test Analysis for Nursing care with respect to Gender

Attributes	Gender	N	P Value* (2 Tail)
Skills and Competency	Male	35	.004
	Female	25	
	Total	60	
Time spent with patients	Male	35	.975
	Female	25	
	Total	60	
Answering questions of patients	Male	35	.772
	Female	25	
	Total	60	
Handling problem of patients	Male	35	**.030**
	Female	25	
	Total	60	
Nurses observe the promised time	Male	35	.427
	Female	25	
	Total	60	
Keeping Privacy of Patient	Male	35	**.007**
	Female	25	
	Total	60	
Friendliness and courtesy and personalized attention	Male	35	.102
	Female	25	
	Total	60	
Availability of Nurses when needed	Male	35	.852
	Female	25	
	Total	60	
Availability of Nurses in odd hours	Male	35	.550
	Female	25	

	Total	60		
Timely administration of medication	Male	35	.485	
	Female	25		
	Total	60		
Information regarding your daily progress	Male	35	.625	
	Female	25		
	Total	60		
Overall Satisfaction (Median) with Nursing Care	Male	35	.495	
	Female	25		
	Total	60		

From above table, it is observed that P Value is significant (less than 0.05) in case of two attributes i.e handling problem of patients and Keeping Privacy of Patient. Hence, null hypothesis is rejected for the same. P Value is not significant for other nine attributes and hence null hypothesis is failed to reject.

P Value of Overall Satisfaction (Median) for nursing care is also not significant and hence null hypothesis is failed to reject in case of overall satisfaction too.

Table 5: Mann-Whitney Test Analysis for Nursing care with respect to Wards

Attributes	Ward	N	P Value* (2 Tail)
Skills and Competency	Surgery	30	**.000**
	Medicine	30	
	Total	60	
Time spent with patients	Surgery	30	.895
	Medicine	30	
	Total	60	
Answering questions of patients	Surgery	30	**.000**
	Medicine	30	
	Total	60	
Handling problem of patients	Surgery	30	**.000**
	Medicine	30	
	Total	60	
Nurses observe the promised time	Surgery	30	**.000**
	Medicine	30	
	Total	60	
Keeping Privacy Of Patient	Surgery	30	1.000
	Medicine	30	
	Total	60	
Friendliness and courtesy and personalized attention	Surgery	30	**.000**
	Medicine	30	
	Total	60	
Availability of Nurses when needed	Surgery	30	**.000**
	Medicine	30	
	Total	60	
Availability of Nurses in odd hours	Surgery	30	.299
	Medicine	30	
	Total	60	
Timely administration of medication	Surgery	30	1.000
	Medicine	30	
	Total	60	
Information regarding your daily progress	Surgery	30	.560
	Medicine	30	
	Total	60	
Overall Satisfaction (Median) with Nursing Care	Surgery	30	.279
	Medicine	30	
	Total	60	

From above table, it is observed that P Value is significant (less than 0.05) in case of following attributes. Skills and Competency, answering questions of patients, Handling problem of patients, Nurses observe the promised time, Friendliness and courtesy and personalized attention, Availability of Nurses when needed. Hence, null hypothesis is rejected for the same. P Value is not significant for other five attributes and hence null hypothesis is failed to reject. P Value of Overall Satisfaction (Median) for nursing care is also significant and hence null hypothesis is rejected in case of overall satisfaction too.

Table 5: Kruskal Wallis Test analysis of Nursing care with respect to Age

Attributes	Age	N	P Value* (2 Tail)
Skills and Competency	18-35	16	.119
	36-50	20	
	51-65	24	
	Total	60	
Time spent with patients	18-35	16	.345
	36-50	20	
	51-65	24	
	Total	60	
Answering questions of patients	18-35	16	.463
	36-50	20	
	51-65	24	
	Total	60	
Handling problem of patients	18-35	16	.113
	36-50	20	
	51-65	24	
	Total	60	
Nurses observe the promised time	18-35	16	.465
	36-50	20	
	51-65	24	
	Total	60	
Keeping Privacy of Patient	18-35	16	**.037**
	36-50	20	
	51-65	24	
	Total	60	
Friendliness and courtesy and personalized attention	18-35	16	.053
	36-50	20	
	51-65	24	
	Total	60	
Availability of Nurses when needed	18-35	16	.057
	36-50	20	
	51-65	24	
	Total	60	
Availability of Nurses in odd hours	18-35	16	.120
	36-50	20	
	51-65	24	
	Total	60	
Timely administration of medication	18-35	16	.731
	36-50	20	
	51-65	24	
	Total	60	
Information regarding your daily progress	18-35	16	**.001**
	36-50	20	
	51-65	24	
	Total	60	
Overall Satisfaction (Median) with Nursing Care	18-35	16	.177
	36-50	20	
	51-65	24	
	Total	60	

From above table, it is observed that P Value is significant (less than 0.05) in case of two attributes i.e.Information regarding your daily progress and Keeping Privacy of Patient. Hence, null hypothesis is rejected for the same. P Value is not significant for other nine attributes and hence null hypothesis is failed to reject. P Value of Overall Satisfaction (Median) for nursing care is also not significant and hence null hypothesis is failed to reject in case of overall satisfaction too.

There is significant difference found out between satisfaction of patients related with daily round of Doctors of medicine ward and surgery ward. People from surgery ward are less satisfied with round of Doctors. There is significant difference found out between satisfaction of patients related with handling problem of patients and Keeping Privacy of Patient of male and female. females are less satisfied with this attribute.

There is significant difference found out between satisfaction of patients related with following between medicine ward and surgery ward.
Skills and Competency, answering questions of patients, Handling problem of patients, Nurses observe the promised time, Friendliness and courtesy and personalized attention, Availability of Nurses when needed, Patients from surgery ward are less satisfied, Age and Education level affect the satisfaction related with privacy of the patients kept by nurses.

RECOMMENDATIONS
1. There is need to do further investigation about availability of Doctorsin surgery wards. Written schedule should be prepared about rounds in surgery ward in coordination with Doctors for regular round in the wards.
2. Nurses should be trained and informed to improve their problem-solving skills and maintain privacy of patients, specifically when they are dealing with female patients.
3. There is need to improve supply of nurses in surgery department and need for proper training to existing nurses over there to improve:
4. Skills and Competency
5. Answering skills of questions of patients
6. Handling problem of patients
7. Friendliness and courtesy and personalized attention
8. Ward Boys and Ayaben are strictly observed and trained to modify and improve their behavior with the patients.
9. Written schedule of cleaning of different wards and corridor should be prepared and implemented to improve sanitation and cleanliness.

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