
A STUDY ON PATIENT PERCEPTION ON ROOM SERVICES PROVIDED BY PRIVATE AND GOVERNMENT HOSPITALS IN TAMILNADU

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ABSTRACT

In this study evaluated the patient perception about room service provided by public and Private hospital with special reference to Villupuram district. These studies the researcher have 600 respondents were selected, 300 respondent from government hospitals and 300 respondent from private hospitals. In this the validity / reliability of scale items are evaluated using Cronbach alpha coefficient and major aspects underlying room services are identified using principal component factor analysis with varimax rotation. The status of room services between private and Government hospitals is compared using t-test. The discriminant analysis is also run to identify the aspects underlying room services that could well discriminate private and Government hospitals. The opinions of the respondents regarding the status room services are also compared across groups by socio-economic characteristics, such as Gender, age, education, area of residence (location) and occupation (using t-test and F-test). The comparative analysis (t-test / F-test) and discriminant analysis is also applied to the data pertaining to support services, level of satisfaction and problems faced by the respondents in the hospitals.

Key words; Perception, Room service, Hospitals , Customer, Patients.

Introduction

The concept of patient satisfaction is rapidly changing to customer's delight which means the patient is not only cured of his ailments during the hospital stay, but is also pleased with the amenities provided to him by the hospital and its staff during the stay which he fondly remembers after being discharged. The role of manpower does play a very important role in patient satisfaction. The hospital is a complex institute and every person directly or indirectly involved in rendering services is important for the patient. The modern treatment based on advance technology is not only costly but is full of complexities. Therefore patient satisfaction has a special consideration in treatment.¹

Hospital malnutrition is a common problem in various hospitals worldwide [1]. It increases the severity of the disease, and prolongs the period of stay and delays recovery. This makes it important not only for financial reasons but also for the psychological wellbeing of the patient. Nutritional promotion plays a vital role in faster recovery times, reduces hospital costs and improves patient satisfaction [2]. Food service is a basic essential part of patient rights. Adequate meal consumption is necessary to aid in patient recovery [3].

Significance of the Study

In this study improving the quality of patient care in hospitals is a vital and necessary activity, therefore the researcher carried out this study for Tamil Nadu hospitals, trying to study patients' perception about room services provided by Government and Private hospital. To determine the variables that affect satisfaction and aiming at coming up with recommendations for centered health care centers and decision makers, and producing data that can help managers and doctors to identify and solve problems. Results of the patient satisfaction survey thus have broad implications for improving patient care in both the public and private health sectors.

Statement of the Problem

Studies of patients' perception towards health services, health personnel and resources are important to determine whether they meet patients' expectations and needs and to judge patient satisfaction. This information can be used by hospital management to develop improvement programs and to address problems identified by the patients. There is a need for such studies as this helps the healthcare services provider realize their strengths, weaknesses, opportunities and threats. This will further help in planning and implementing changes and making necessary improvements to health services provided at the hospital. In this context an attempt was made to study patients' perception on hospital services and the level of patient satisfaction on room services provided by hospitals in Villupuram District.

OBJECTIVES OF THE STUDY

To measure patient's perception towards room services provided by the selected hospital in study area.

METHODOLOGY

The researcher selected samples from both Private and Government hospitals. This study has been confined to private and government hospitals of Villupuram district providing only allopathic type of health care services. This study is exploratory in character and therefore the survey method of data collection was adopted.

PERIOD OF THE STUDY

The required primary data were collected from the selected respondents during six months period, from June 2019 to December 2019. Secondary data were collected for ten years period from 2010 to 2019.

SAMPLING

A total of 600 patients were interviewed. The sample size 300 respondents from government hospital and 300 respondents from private hospitals was calculated with a margin of error of 5%, and a confidence level of 95%. List of patients who are admitted to hospitals in Villupuram District for medical, surgical, or obstetric treatment, observation or care and stay at least two nights (only inpatient) during two months were collected.

SOURCES OF DATA SOURCE

Both primary and secondary data were used in the present study. To fulfill the first objective, secondary data were used and to fulfill the second, third, fourth and fifth objectives,

primary data were used. Primary data were collected through questionnaires as well as through personal. Secondary data were collected from published books, journals, and other documents.

STATISTICAL TECHNIQUES

The collected primary data were analyzed by applying various statistical techniques such as descriptive statistic like Mean and Standard deviation, Cross tabulation with chi-square test, t-test for independent samples, One way ANOVA, analysis Factor Analysis, and Discriminant Analysis.

LIMITATIONS OF THE STUDY

The study area was limited to Villupuram district and the findings may not be applicable to other districts, as vast differences exist among the patients with regard to demographic and psychographics characteristics. Hence, the findings of the study may be considered appropriate for the situations similar to study area and extra care should be taken while generalizing the results.

ANALYSIS AND INTERPRETATION

Table-1

Patient Perception about Room Services

Results of Reliability Test for Scale Items Measuring Room Services

Item No	Description of Scale Items	Item to Total Correlation	Alpha if Deleted
1	Calm and quietness in room	0.5186	0.7437
2	Level of the safety of your hospital room	0.5299	0.7414
3	Level of comfort in sleeping in your room	0.4533	0.7511
4	Bed spread and the pillow cover changes daily	0.4381	0.7525
5	Quality of meals provided in rooms	0.3609	0.7604
6	Equipment used by the doctors and nurses are sterilized regularly	0.5370	0.7405
7	Maintaining drainage system	0.3356	0.7636
8	Steps taken to avoid mosquito breeding	0.1747	0.7811
9	System followed by hospital for disposal of biomedical waste	0.3995	0.7564
10	Facilities of ventilation, fan, water, etc	0.4392	0.7521
11	Condition of attached toilet facility in room	0.3454	0.7632
12	Maintenance of dressing room	0.3957	0.7569
Cronbach's Alpha Reliability Coefficient		0.7713	

Source: Primary Data

As reported in the table-1, the 'item to total correlation' is above 0.30 and alpha if deleted value is below the overall Cronbach alpha coefficient of 0.7713 for all items except for item 8. Though item to total correlation for item 8, 0.1747, is less than

required, removing this item from the scale does not increase the overall reliability coefficient. Hence, all 12 items in the scale measuring various aspects of room services are subjected to factor analysis to ascertain major aspects of room services.

FACTORS UNDERLYING ROOM SERVICES

Table-2
Eigen values of Factors Underlying Room Services

Factors	Eigenvalue	% of Total Variance	Cumulative % of Total Variance
1	3.56	29.66	29.66
2	1.72	14.34	44.00
3	1.41	11.76	55.76
4	1.18	9.82	65.58
5	1.05	8.74	74.33
6	0.84	6.98	81.30
7	0.72	6.00	87.30
8	0.50	4.18	91.49
9	0.35	2.90	94.39
10	0.31	2.55	96.94
11	0.24	2.01	98.94
12	0.13	1.06	100.00

Source: Primary Data

From the Table-2, it can be seen that the eigenvalue for the first five factors is above one, in turn indicating that there are five valid factors that could represent major aspects underlying room services in hospitals because all these factors together possess 74.33 per cent of the essence of the actual data. Individually, first, second, third, fourth and fifth factors could explain 29.66 per cent, 14.34 per cent, 11.76 per cent, 9.82 per cent and 8.74 per cent of the variance in the actual data.

Table-3
Factor Loadings of Items with Extracted Factors Underlying Room Services (After Varimax Rotation)

Item No	Description of Scale Items	Extracted Factor				
		1	2	3	4	5
10	Facilities of ventilation, fan, water, etc	0.8301	0.0662	0.0569	0.2521	-0.0061
1	Calm and quietness in room	0.7812	0.1409	0.1831	-0.0118	0.0753
3	Level of comfort in sleeping in your room	0.7166	0.1801	-0.0760	0.1117	0.1684

4	Bed spread and the pillow cover changes daily	0.7176	0.0688	0.2140	-0.3559	0.1212
2	Level of the safety of your hospital room	0.1175	0.9262	0.0660	0.0296	0.1074
6	Equipment used by the doctors and nurses are sterilized regularly	0.1021	0.9216	0.0825	0.0198	0.1397
7	Maintaining drainage system	0.1312	0.0278	0.8766	0.0213	0.0185
9	System followed by hospital for disposal of biomedical waste	0.0629	0.1423	0.8638	0.0674	0.0928
11	Condition of attached toilet facility in room	0.1270	0.3131	0.2434	0.6845	0.1472
8	Steps taken to avoid mosquito breeding	-0.0100	0.3884	0.0801	-0.5831	0.1577
5	Quality of meals provided in rooms	0.0289	0.2400	0.0363	-0.2354	0.8533
12	Maintenance of dressing room	0.1647	0.0645	0.0933	0.3722	0.7980
Explained Variance		2.4174	2.1003	1.6897	1.2115	1.5002
% of Total Variance		20.14	17.50	14.08	10.10	12.50
Cumulative % of Total variance		20.14	37.65	51.73	61.82	74.33
Factor Label		Facilities & level of comfort	Level of safety (Regular Sterilization of Equipment)	Maintenance of Drainage system & Disposal of biomedical waste	Cleanliness	Quality of Food & other amenities

Source: Primary Data. Boldfaced are high factor loadings

According to table-3 , first factor is highly characterized by facilities, quietness and level of comfort available in rooms as it is highly loaded by item 10 (Facilities of ventilation, fan, water, etc) followed by items 1 (Calm and quietness in room), 3 (Level of comfort in sleeping in your room) and 4 (Bed spread and the pillow cover changes daily).

Similarly items 2 (Level of the safety of your hospital room) and 6 (Equipment used by the doctors and nurses are sterilized regularly) with second factor, items 7 (Maintaining drainage system) and 9 (System followed by hospital for disposal of biomedical waste) with third factor, items 11 (Condition of attached toilet facility in room) and 8 (Steps taken to avoid mosquito breeding) with fourth factor, and items 5 (Quality of meals provided in rooms) and 12 (Maintenance of dressing room) with fifth factor are highly loaded.

From high loadings of items with extracted factors, it is understood that second, third, fourth and fifth factors represent status of room services pertaining to 'level of safety and

sterilized equipment', 'maintenance of drainage system & disposal of biomedical waste', 'cleanliness' and 'quality of Food & other amenities'.

STATUS OF ROOM SERVICES BASED ON ENTIRE SAMPLE

Table -4
Status of Room Services Based on Entire Sample

Major Aspects of Room Services	Mean	SD	t Value
Facilities & level of comfort	3.26	0.83	7.78***
Level of safety (Regular Sterilization of Equipment)	3.09	1.12	1.91*
Maintenance of Drainage system & disposal of biomedical waste	3.10	1.01	2.30**
Cleanliness	2.98	0.85	-0.45
Quality of Food & other amenities	3.02	0.89	0.64

*Significant at 5% level; **Significant at 5% level; ***Significant at 1% level.

As per the table, entire sample's mean perception level ranges between 2.98 and 3.26 for all five major aspects of room services. That is, level of opinion of the whole respondents is found to be in range meant for 'neutral' level (≥ 2.50 and < 3.50).

However from one-sample t-test, which compares obtained mean scores with hypothetical value of '3', the exact score for 'neutral', it becomes apparent that obtained mean score differs significantly from 'neutral' level for "Facilities & level of comfort" ($t = 7.78$, $p < 0.01$), "Level of safety (Regular Sterilization of Equipment)" ($t = 1.91$, $p < 0.10$) and "Maintenance of Drainage system & disposal of biomedical waste" ($t = 2.30$, $p < 0.05$).

So, it is concluded that the available facilities / level of comfort, level of safety and maintenance of drainage system and disposal of biomedical waste are significantly above moderate level whereas cleanliness of rooms and quality of food / other amenities provided through room service have been just at moderate level in hospital at Villupuram district.

Relationship between Patients' Socio-Economic Characteristics and their Perceived Status of Room Service

Relationship between Socio Economic Characteristics of patients and their Perceived Status about various Room services offered by the hospitals and the result are presented in the following pages.

Table 5
Age and Perceived Status of Patients about Room Services

Major Aspects of Room Services	Age (in Years)					F Value
	18-30	31-40	41-50	51-60	> 60	

Facilities & level of comfort	3.45 (0.71)	3.16 (1.08)	3.23 (0.79)	3.31 (0.87)	3.22 (0.70)	1.86
Level of safety (Regular Sterilization of Equipment)	3.24 (0.78)	3.00 (1.07)	2.83 (1.20)	3.41 (1.13)	3.06 (1.19)	5.04***
Maintenance of Drainage system & disposal of biomedical waste	3.63 (0.67)	3.01 (1.11)	3.03 (1.00)	3.00 (0.97)	2.93 (1.07)	8.52***
Cleanliness	3.09 (0.90)	2.89 (0.95)	2.97 (0.89)	3.09 (0.77)	2.91 (0.78)	1.46
Quality of Food & other amenities	3.14 (0.63)	3.10 (0.73)	2.96 (0.86)	3.05 (1.14)	2.94 (0.94)	1.15

Figure in brackets are standard deviation; DF = 4, 595 for F values.

Table value for 4, 595 df @ 10 = 1.95, @5% = 2.35; @1% = 3.35

***Significant at 1% level

From the comparison by age, it is understood that the respondents of all age groups do not differ in perceiving the status of “Facilities & level of comfort”, “Cleanliness” and “Quality of Food & other amenities” (t-values are insignificant). However, there is a significant difference in opinion about status of “Level of safety (Regular Sterilization of Equipment)” (F = 5.04, $p < 0.01$) and “Maintenance of Drainage system & disposal of biomedical waste” (F = 8.52, $p < 0.01$). At the same time mean scores against all aspects under all age groups except for 18-30 age group against “Maintenance of Drainage system” (Mean = 3.63) ranges between 2.50 and 3.50, the range for ‘moderate’ status. So, in sum, it is found that perceived status of the room services is not highly influenced by age.

Table 6

presents the results from comparing the perception about status of room services between male and female groups.

Major Aspects of Room Services	Gender		t Value
	Male	Female	
Facilities & level of comfort	3.29 (0.89)	3.23 (0.75)	0.93
Level of safety (Regular Sterilization of Equipment)	3.14 (1.08)	3.02 (1.17)	1.39
Maintenance of Drainage system & disposal of biomedical waste	3.10 (1.02)	3.09 (1.00)	0.15
Cleanliness	3.04 (0.80)	2.91 (0.91)	1.92*

Quality of Food & other amenities	3.13	2.88	3.50***
	(0.84)	(0.93)	

Figure in brackets are standard deviation; Degrees of freedom = 598 for t values.

Table value for 598 df @10 = 1.64, @5%=1.96; @1% = 2.58

*Significant at 10% level; **Significant at 5% level

An observation of the Table No 5.64 shows that the opinion of both male and female patient group is same in respect of “Facilities & level of comfort”, “Level of safety (Regular Sterilization of Equipment)”, “Maintenance of Drainage system & disposal of biomedical waste”, whereas opinions of both groups differ moderately about “Cleanliness” ($t = 1.92, p < 0.01$) and highly about “Quality of Food & other amenities” ($t = 3.50, p < 0.01$).

The mean values against all aspects under male and female groups are in moderate range. Hence, it is concluded that the level of opinion about room services does not differ much between male and female patient groups.

Table 7
shows the results of the analysis comparing the respondents’ opinion about status of room services by educational status.

Major Aspects of Room Services	Educational Status				F Value
	Illiterates	School level	Under Graduate	Post Graduate and others	
Facilities & level of comfort	3.10 (0.69)	3.31 (0.78)	3.19 (0.94)	3.39 (0.82)	3.74***
Level of safety (Regular Sterilization of Equipment)	2.45 (0.99)	3.33 (1.18)	3.07 (1.08)	3.33 (1.05)	19.34***
Maintenance of Drainage system & disposal of biomedical waste	2.98 (1.12)	3.16 (1.02)	2.99 (1.12)	3.20 (0.83)	1.98
Cleanliness	2.83 (0.77)	3.19 (0.72)	2.76 (1.03)	3.14 (0.75)	10.11***
Quality of Food & other amenities	2.72 (0.81)	2.98 (0.97)	2.97 (1.00)	3.26 (0.73)	10.49***

Figure in brackets are standard deviation; Degrees of freedom = 3, 596 for F values.

Table value for 3, 596 df @10 = 2.09, @5%=2.61; @1% = 3.81

***Significant at 1% level

From comparison of opinion by educational status, it can be seen from Table 5.38 that the respondents with all educational status have perceived all aspects of room services at moderate level (mean scores are ≥ 2.50 and < 3.50). However, the level of perception differs significantly by educational status about all aspects (F values are significant) except “Maintenance of Drainage system & disposal of biomedical waste” (F value is insignificant). That is, perceived status of room services, which is moderate, is significantly related to the educational status of the respondents.

Table 8
The respondents’ opinion about status of room services is compared across groups by family income and report the results.

Major Aspects of Room Services	Monthly Family Income					F Value
	Up to Rs.5000	Rs.5001-10000	Rs.10001-15000	Rs.15001-20000	> Rs.20000	
Facilities & level of comfort	3.23 (0.76)	3.34 (0.65)	3.08 (1.04)	3.16 (0.69)	3.46 (0.92)	3.65***
Level of safety (Regular Sterilization of Equipment)	2.80 (1.16)	2.94 (1.05)	3.40 (1.16)	3.37 (0.85)	3.20 (1.12)	7.24***
Maintenance of Drainage system & disposal of biomedical waste	3.14 (1.03)	2.96 (0.91)	3.07 (1.19)	3.23 (0.94)	3.12 (0.94)	1.00
Cleanliness	3.02 (0.82)	2.72 (0.90)	2.97 (0.89)	3.20 (0.85)	3.09 (0.76)	4.91***
Quality of Food & other amenities	2.90 (1.09)	2.96 (0.92)	3.05 (0.61)	3.16 (0.83)	3.17 (0.78)	2.30*

Figure in brackets are standard deviation; Degrees of freedom = 4, 595 for F values.

Table value for 4, 595 df @10 = 1.95, @5% = 2.35; @1% = 3.35

*Significant at 10% level; ***Significant at 1% level

As reported in the table 5.65, the mean perception scores of the respondents under groups with all levels of family income with regard to all five major aspects underlying room services are in the ‘fair’ range (neither poor nor good as mean scores ranges between 2.72 and 3.46). But the degree of fair opinion vary significantly across groups in respect of all aspects of room services except “Maintenance of Drainage system & disposal of biomedical waste”. So, it is found that the perceived status of room services in hospitals is fair and extent of fair opinion is significantly related to family income of the respondents.

Table 9
presents t-test results comparing the perception about room services between urban and rural respondent groups.

Major Aspects of Room Services	Location		t Value
	Urban	Rural	
Facilities & level of comfort	3.27 (0.77)	3.26 (0.87)	0.27
Level of safety (Regular Sterilization of Equipment)	3.14 (1.05)	3.05 (1.17)	0.96
Maintenance of Drainage system & disposal of biomedical waste	3.17 (0.91)	3.04 (1.08)	1.48
Cleanliness	3.13 (0.82)	2.88 (0.86)	3.57***
Quality of Food & other amenities	3.12 (0.94)	2.95 (0.85)	2.25**

Figure in brackets are standard deviation; Degrees of freedom = 598 for t values.

Table value for 598 df @10 = 1.64, @5%=1.96; @1% = 2.58

Significant at 5% level; *Significant at 1% level

A perusal of the table 5.67 shows that perceived status of both urban and rural groups about room services are moderate as mean scores range from 3.12 to 3.27 for urban group and from 2.88 to 3.26 for rural group. At the same time, from significant t-values, it is understood that the level of perception of rural group about “cleanliness” ($t = 3.57$, $p < 0.01$) and “Quality of Food & other amenities” ($t = 2.25$, $p < 0.01$) is significantly less than that of urban counterparts. As there is no notable difference in the opinion about most of the aspects of room services, it is concluded that perceived status of room services is independent of the area of residence of the patients.

Table 9
The opinion about status of room services is compared with occupational status and the results of the analysis are reported in Table.

Major Aspects of Room Services	Occupational Status					F Value
	Agriculturist	Business	Salaried	Professional	Unemployed	
Facilities & level of comfort	3.18 (0.77)	3.15 (0.97)	3.33 (0.81)	3.41 (0.84)	3.32 (0.80)	1.58
Level of safety (Regular Sterilization of Equipment)	2.80 (1.14)	3.21 (1.14)	3.18 (1.00)	3.35 (1.26)	3.13 (1.11)	3.97***
Maintenance of Drainage system & disposal of biomedical waste	2.87 (1.03)	2.91 (1.07)	3.30 (1.00)	2.97 (0.95)	3.31 (0.90)	6.22***
Cleanliness	3.08 (0.83)	2.84 (0.84)	3.02 (0.77)	2.94 (0.85)	2.96 (0.96)	1.35
Quality of Food & other amenities	3.03 (0.92)	3.20 (0.93)	3.05 (0.78)	2.79 (0.89)	2.94 (0.93)	2.21*

Figure in brackets are standard deviation; Degrees of freedom = 5, 594 for F values.

Table value for 4, 595 df @10 = 1.95, @5% = 2.35; @1% = 3.35

*Significant at 10% level; ***Significant at 1% level

An examination of the table 5.67 shows that the mean scores, from 3.15 to 3.41 for “Facilities & level of comfort”, 2.80 to 3.35 for “Level of safety (Regular Sterilization of Equipment)”, 2.87 to 3.31 for “Maintenance of Drainage system & disposal of biomedical waste”, 2.84 to 3.08 for “Cleanliness” and from 2.79 to 3.20 for “Quality of Food & other amenities” are in moderate range (≥ 2.50 and < 3.50). However, there is a significant difference in the level of perception (though they are in moderate range) about “Level of safety (Regular Sterilization of Equipment)” ($F = 3.97, p < 0.01$), “Maintenance of Drainage system & disposal of biomedical waste” ($F = 6.22, p < 0.01$) and “Quality of Food & other amenities” ($F = 2.21, p < 0.10$). In sum, it is found that perceived status of room services, though moderate, is significantly related to occupational status of the patients in the study region.

Table 10
The status of room services between private and Government hospitals is compared and the provides the results of the analysis.

Major Aspects of Room Services	Sector		t Value
	Private	Government	
Facilities & level of comfort	3.35 (0.85)	3.17 (0.81)	2.64***
Level of safety (Regular Sterilization of Equipment)	3.51 (0.98)	2.67 (1.10)	9.83***
Maintenance of Drainage system & disposal of biomedical waste	3.24 (0.91)	2.95 (1.09)	3.62***
Cleanliness	3.09 (0.81)	2.88 (0.88)	3.16***
Quality of Food & other amenities	3.21 (1.03)	2.84 (0.68)	5.14***

Figure in brackets are standard deviation; Degrees of freedom = 598 for t values.

Table value for 598 df @10 = 1.64, @5%=1.96; @1% = 2.58

***Significant at 1% level

As provided in the Table 5.69 the F values for all five aspects of room services are significant at 1 per cent level, in turn indicating that status of rooms services differ significantly between private and government hospitals as perceived by the patients in the sample. From the perusal of the mean values, which is more for private sector hospital patient group compared to that of government hospital patient group, it is apparent that status of room services provided by private hospitals is notably better than that of government hospitals.

The difference in linear combination of five different aspects underlying room services between private and government hospital is analyzed using discriminant analysis. That is, an attempt is made to identify which one of five aspects underlying room services contributes to the most of the differences between private and government hospitals. For the discriminant analysis, the dependent variable is hospital sector coded as '1' for private hospital and '2' for government hospital. All five aspects of room services are the variables in the independent set.

CONCLUSION

In this study, an attempt was made to know whether the respondents regardless of the difference in socio-economic characteristics have perceived the room service provided by the selected hospitals. So, it is concluded that the available facilities / level of comfort, level of safety and maintenance of drainage system and disposal of biomedical waste are significantly above moderate level whereas cleanliness of rooms and quality of food / other amenities provided through room service have been just at moderate level in hospital at Villupuram district.

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