

IMPACT ON PATIENTS WHILE AVAILING HOSPITALS SERVICES IN TIRUNELVELI DISTRICT

R. P. Gokula krishnan¹, Dr. D. Arunkumar²

¹MBA, Department of Management Studies,
Bharath Institute of Science and Technology,
Selaiyur, Chennai, Tamil Nadu 600 073

Bharath Institute of Higher Education and Research
²Associate Professor of Management Studies,
Bharath Institute of Science and Technology,
Selaiyur, Chennai, Tamil Nadu 600 073
Bharath Institute of Higher Education and Research

ABSTRACT

This research study examines various difficulties that are faced by patients while availing Hospitals services in Tirunelveli district with the aim of finding out the lack of facilities in hospitals that influences the patient's perception towards hospitals. A comprehensive survey was made in the hospitals situated at the research area through well designed questionnaires in order to record the problems faced by the patients regarding both public and private healthcare hospitals. The sample respondents of 300 patients were randomly selected from hospitals in 3 main blocks of Tirunelveli City. The study found five major influencing factors and concludes that the patient's perception towards hospitals on the basis of facilities and treatment provided by the health sector and suggests that proper attention to respondents, provision of best infrastructure, and proper utilization of the existing resources improves the patient's perception towards hospital services. In the present study, Kaiser Meyer Oklin (KMO) Measure of Sampling Adequacy (MSA) and Barlett's test of Sphericity were applied to verify the adequacy or appropriateness of data for factor analysis.

Keywords: Healthcare, Private / Public Hospital, Patient's problems, Factor Analysis.

1. INTRODUCTION

Hospital is an essential part of a social and medical organization. The function of a hospital is to provide complete healthcare to the public, both curative and preventive. The healthcare facilities in Tamil Nadu are becoming increasingly more structural and controlled. There are different types of health facilities available in Tirunelveli District such as the government hospitals, private hospitals, and single and multi-specialty hospital, trust hospital and private diagnostic centers which provide different kinds of facilities to the patients. Due to an increasing population, health care facilities are responsible for taking care of all the health related needs in a best manner. Studies have shown that health care utilization and choice of health service providers are sensitive to user perceptions of quality[1] . For these reasons, patient perceptions of health services are now an essential part of quality assessment in health care.

2. OBJECTIVES

The aim of the study is to analyze the factors which influence the perception of patients on choosing their health service providers (private/public) of Tirunelveli district and to identify the major deciding factors of choosing hospital services.

SCOPE

The study is confined to the problems faced by the patients of the health care sectors in Tirunelveli district. The study covers only the hospitals situated in Tirunelveli district.

3. REVIEW OF LITERATURE

Ratha and Lakshmi [2] in their article titled “A study on problem faced by patients in private hospitals” focused on analyzing the problems that are being faced by the patients and to identify the factors that determine the choice of hospitals in Ramanathapuram Taluk. The results indicate that the healthcare varies based on the cost, effectiveness, and quality services of the hospital. This study finally concludes that people generally adopt service from private hospitals due to the proper timeliness, infrastructure, feedback services and advanced care.

Chandrasekar [3] in their article titled “Patient’s Perception towards Service Quality of Government Hospitals - an Empirical Study in Nilgiris District” aimed to analyzing the facilities, availability and quality of services in government hospital. Primary data were observed from 50 respondents through interview in Nilgiris district. The study finds that government hospitals play vital role in major and minor health problem of patients. The patients in Nilgiris district are really satisfied with government hospitals due to free medical treatment and free medicines but half of the patients were dissatisfied due to insufficient doctors, infrastructure, and lack of technological improvements and lack of modern techniques for current requirements.

Ratha [4] in their article titled “Patient’s perception towards the private hospitals in Ramanathapuram Taluk”. This article deals with the customer perception towards the private hospitals in Ramanathapuram town. The researcher mainly focused on customer’s perception about private hospitals and analysed the consumer level of awareness and problems about private hospitals. This study concludes that people generally prefer private hospitals when they talk about timeliness, infrastructure, before and after time services, extra care, advance techniques etc. Hospitals industry today plays a big role in making the welfare of the public. Doctors come second after the God. So both organization should take care of their social responsibility towards the society first and profit afterward.

Sambasivan and Vennilaashree [5] in their article titled “A Study of Patient Perceptions of Service Quality and satisfaction in Health Care and Hospital Services in Chennai City”. In this article, authors conducted a study to assess the satisfaction of patients who have utilized the health services provided by private hospitals and to identify factors related to patient satisfaction. To accomplish this research, primary data were collected by the authors from different respondents of various private hospitals in Chennai city with assistance from employees of those hospitals through 756 questionnaires. The collected data are verified for the reliability using the tool Cronbach’s Alpha co-efficient. The study concludes that the private hospitals play an important role in health care system and role in the healthcare delivery system of India. Through a wide network of healthcare facilities, this sector satisfied the needs of both rural and urban population and has been expanding widely to meet the increasing demands of the customers. The quality of services is decided by the facilities available in the hospital.

Chandrakanth B Jewargi [6] in their article titled “Customer Perception towards Private Hospital in Gulbarga” examines the patients’ perception towards the private hospital in Gulbarga District. This study explores the treatment quality, staff performance, and service quality of the hospital to find out the suitable strategies for the patients satisfaction in private hospital. The primary data were collected from 158 respondents randomly selected from 8 private general hospitals in Gulbarga. The study concludes that the private hospital should adopt strategies to fulfill the current need of the patients. The private healthcare system should not lose sight of their primary reason for their existence; they must remain the focus of healthcare services.

DATA COLLECTION

The study was carried out with a well-defined questionnaire through which 300 survey samples were collected from 3 blocks of Tirunelveli district on a random sampling basis and convenience sampling method is used to collect primary data.

PROFILE OF THE PATIENTS

The research survey has been taken from the patients of private and government hospitals in Tirunelveli District. Table 1 shows the profile of the patients in this survey.

TABLE NO 1
PROFILE OF PATIENTS

		HOSPITAL SERVICES AVAILED				
		PRIVATE		PUBLIC		TOTAL
		N	TABLE %	N	TABLE %	
Age	Below 25 Years	36	12.00%	4	1.33%	40
	25 to 35 Years	10	3.33%	71	23.67%	81
	36 to 45 Years	61	20.33%	4	1.33%	65
	46 to 55 Years	3	1.00%	54	18.00%	57
	Above 55 Years	2	0.67%	55	18.34%	57
	Total	112	37.33%	188	62.67%	304
Marital Status	Married	57	19.00%	155	51.67%	212
	Unmarried	55	18.33%	33	11.00%	88
	Total	112	37.33%	188	62.67%	300
Educational Qualification	Illiterate	1	0.33%	3	1.00%	4
	Primary	5	1.67%	52	17.33%	57
	SSLC	4	1.33%	13	4.33%	17
	Higher Secondary	3	1.00%	12	4.00%	15
	Diploma	35	11.67%	2	0.67%	37
	Graduate	2	0.67%	100	33.34%	102
	Post Graduate	51	17.00%	2	0.67%	53
	Professional	11	3.66%	4	1.33%	15
	Total	112	37.33%	188	62.67%	300
Monthly Income of the Patients	Below Rs. 5000	1	0.33%	2	0.67%	3
	Rs. 5000 to Rs. 10,000	1	0.33%	12	4.00%	13
	Rs. 10,001 to Rs. 15,000	4	1.33%	71	23.67%	75
	Rs. 15,001 to Rs. 20,000	2	0.67%	55	18.33%	57
	Rs. 20,001 to Rs. 25,000	65	21.67%	44	14.67%	109
	Above Rs. 25,000	39	13.00%	4	1.33%	43
	Total	112	37.33%	188	62.67%	300
	Urban	50	16.67%	55	18.33%	105
	Semi Urban	7	2.33%	75	25.00%	82
	Total	112	37.33%	188	62.67%	300

Source: Primary data

Table 1 shows that (188 Respondents) 62.67 % of the respondent in the study area are prefer to go to public sector hospital whereas(112Respondents) 37.33 % of the respondents prefer to go to private hospitals.In private hospitals, married respondent are availing services more in percentage (50.89 per cent) than the unmarried respondent (49.11) andin the public sector hospitals, the married respondent are majority in percentage (82.45 percent), the unmarried respondent are very less in the public sector hospitals with 17.55 percent and the deviation among the married and unmarried respondent in the public sector hospital is very high.In private hospitals, post graduate respondent availing services (45.54 per cent) are more in percentage and in public sector hospitals, the major visitors are graduate respondent with 53.19 percentage.In Private hospitals, the respondents whose monthly income is above Rs. 25,000 are contributing (34.82 per cent) more in percentage and followed by the respondent whose monthly income is Rs.20, 001 to Rs. 25,000 with 25.89 percentage In public sector hospitals, the respondent whose monthly earnings is below Rs. 5,000 are the major contributors in availing the public sector health services with 25.00 percentage and they are followed by the respondent whose monthly income is between Rs. 10,001 and Rs. 15,000 (20.33 per cent).

FACTOR ANALYSIS

Factor analysis is a general term for several specific computational techniques .It begins with the construction of a new set of variables based on the relationship in the correlation matrix .The most frequently used approach is principal component analysis .This method transforms a set of variables into a new set of composites variables or principal components that are not correlated to each other. This linear combination of variables called factors component for the variance in the data as a whole. The main objective here is to reduce the variables into manageable number of factors which facilitate easy interpretation .Factor transformation matrix is used to find the interrelationship between and within the filtered factors. KMO measures of sampling adequacy and the Bartlett's test of sphericity determine the factorability of the correlation matrix.

TABLE NO 2
KMO AND BARTLETT'S TEST FOR THE PROBLEMS FACED BY THE
RESPONDENTS WHILE AVAILING HOSPITALS SERVICES

Kaiser-Meyer-Olkin measure of Sampling Adequacy		0.691
Bartlett's Test of Sphericity	Chi-Square	7864.375
	Degrees of freedom	300
	Significance	0.000

Source: Derived

High value of Kaiser – Meyer – Olkin (KMO) test of sample adequacy (0.691) in Table 2 indicates the correlation between the pairs of variables explained by other variables and thus factor analysis is considered to be appropriate in this model. The Bartlett's test of sphericity chi-square indicates the population correlation matrix. It is an intensity matrix. The test of statistics for sphericity is based on X2 test, which is significant. The value is 7864.375.

Findings of the KMO and Bartlett's test reveals that the factor analysis can be rightly employed in this context as evidenced through a higher KMO Measure (0.691) and a significant Bartlett's test result. Hence factor analysis is attempted.

MAJOR PROBLEMS AFFECTING THE RESPONDENTS WHILE AVAILING HOSPITAL SERVICES

Analysis of factors influencing perception of respondents regarding the Attitude towards the hospitals services is made through rotated factor matrix which reveals that there are five major factors affecting the respondents while Availing Hospital Services of Tirunelveli District.

TABLE NO 3
ROTATED FACTOR MATRIX FOR PROBLEMS FACED BY
RESPONDENT WHILE AVAILING HOSPITAL SERVICES

SL. NO	FACTORS	F				
		F1	F2	F3	F4	F5
1	Unhygienic environment	.698	-.028	-.234	.219	.173
2	Un cleaned toilet	.662	.302	-.105	-.164	-.021
3	Un cleaned bed spread	.587	-.345	-.085	-.205	.036
4	Un cleaned canteen facility	.555	.306	.420	-.116	-.027
5	Un hygienic food distribution	.546	-.159	-.261	.132	.161
6	Lack of new technology and equipment's	.272	.528	.181	.066	-.183
7	Lack of Lab facilities (x – ray, scan , MRI)	-.187	.523	.252	.356	.054
8	Long time period in Lab Reports	-.134	.521	-.010	-.507	-.104
9	Lack of operation theatre facilities	.483	.510	-.073	.047	-.366
10	Long time period getting medicine	.326	.432	-.197	.366	-.126
11	Poor relationship with respondent	-.121	.215	.478	-.310	-.356
12	Uncooperative nursing staff	-.189	.164	.462	.260	-.338
13	Inadequate care from nursing staff	.313	.309	.421	-.026	-.096
14	Inadequate staff for emergency	-.207	-.047	.242	-.241	.074
15	No proper consulting time	.248	-.169	.260	-.058	.135
16	Lack of personal attention	.243	.321	-.499	.545	-.139
17	Poor quality of service	.208	.390	-.202	.548	.269
18	Tips money demanded by sub staff	.352	-.149	.378	.491	.043
19	No quick process in paying bill	.362	.353	.267	.484	-.166
20	Inadequate space for patient	-.363	.230	.210	.445	.120
21	Improper arrangement for patient attender	-.496	-.347	-.193	-.295	.530
22	Inadequate stay / food facility for patient attender / care taker	.190	.434	.355	-.281	.529
23	No facility for amenities (hot water / Cupboard)	.112	-.549	-.321	.230	.673
24	Inadequate facility for vehicle parking	.234	.328	-.289	-.149	.446
25	Inadequate transport availability in night time	-.322	.260	.302	.215	.575
Eigen Value		7.157	1.764	1.544	0.942	0.834
% of Variance		41.678	11.119	8.490	5.618	4.854
Cumulative		41.678	52.797	61.287	66.905	71.759
Cronbach's alpha		.912	.913	.841	.765	.721

Extraction Method : Principal Component Analysis
 Rotation Method : Varimax with Kaiser Normalization
 Source : Primary Data

Through an analysis of item of each factor, new dimensions were defined in table 3 excluding item with the value lower than 0.5. Five factors extracted together account for 71.759 of per cent of total variance (information contained in the original 25 variables).

COMPONENTS INFLUENCING RESPONDENT' BEHAVIOUR

The factor analysis of the twenty five attributes relating to the factors influencing the respondents have been identified with five factors and the results are presented in Table 4.

TABLE NO 4
FACTORS INFLUENCING RESPONDENTS BEHAVIOUR

SL. NO	COMPONENTS	EIGEN VALUE	PERCENTAGE OF VARIANCE	CUMULATIVE PERCENTAGE OF VARIANCE
1.	Unhygienic factors	7.157	41.678	41.678
2.	Infrastructure & Technology factors	1.764	11.119	52.797
3.	Care & Relationship factors	1.544	8.490	61.287
4.	Service Quality factors	0.942	5.618	66.905
5.	Basic facilities factors	0.834	4.854	71.759

Source: Computed Data

The executed factor analysis results in five important factors namely unhygienic factors, Infrastructure & Technology factors, Care& Relationship factors, Service Quality factors, Basic facilities factors

The Eigen value for the first factor 'unhygienic factor' is 7.157, which indicates that the factor contains much higher information than the other factors and the percentage of variance is 41.678. The second and third factors namely infrastructure & technology and care & relationship for 11.119 and 8.490 per cent variance with Eigen value of 1.764 and 1.544 respectively. The fourth and fifth factors namely service quality and basic facilities for 5.618 and 4.854 per cent variance with Eigen values 0.942 and 0.834 respectively. The analysis reveals that the narrated five factors explain the 25 variables leading to the problems faced by the respondents to an extent of 71.759 per cent.

UNHYGIENIC FACTORS

The free and low price factor consists of five variables since their factor loading in this factor are higher than the other factors. The overall reliability of the variables in this factor has been estimated with the help of Cranach alpha. The results are given in Table 5.

**TABLE NO 5
UNHYGIENIC FACTORS**

SL. NO	VARIABLES	FACTORS LOADINGS	COMMUNALITY	CRONBACH'S ALPHA
1	Unhygienic environment	0.698	0.621	0.912
2	Un cleaned toilet	0.662	0.568	
3	Un cleaned bed spread	0.587	0.514	
4	Un cleaned canteen facility	0.555	0.592	
5	Un hygienic food distribution	0.546	0.435	

Source: Computed data

The variables which comes under this head are Unhygienic environment and 'Un cleaned toilet' are the first and second highest factors with the loading of 0.698 and 0.662 respectively and a high communality of 0.621 and 0.568 respectively. The variable 'Un hygienic food distribution' is the least factor with the loading of 0.546 and a low communality of 0.435.

INFRASTRUCTURE AND TECHNOLOGY FACTORS

Infrastructure and Lab facilities are the most basic determinant of a patient for selecting the health providers for the treatment. People with uncommon diseases require latest equipment and lab facilities for their better treatment. The variables relating to the Infrastructure & technology factors are depicted in Table 6.

**TABLE NO 6
INFRASTRUCTURE & TECHNOLOGY FACTORS**

SL.NO	VARIABLES	FACTORS LOADINGS	COMMUNALITY	CRONBACH'S ALPHA
1	Lack of new technology and equipment	0.528	0.423	0.913
2	Lack of Lab facilities (x – ray, scan , MRI)	0.523	0.502	
3	Long time period in Lab Reports	0.521	0.557	
4	Lack of operation theatre facilities	0.51	0.635	
5	Long time period getting medicine	0.432	0.482	

Source: Computed data

With regard to the factor relating to the Infrastructure & Technology, the variables like 'Lack of new technology and equipments', 'Lack of Lab facilities (x – ray, scan, MRI)' were the first and second highest factors with the loading of 0.528 and 0.523 respectively and a high communality of 0.423 and 0.502 respectively. The variable 'Long time period getting medicine' was the least factor with the loading of 0.432, and a low communality of 0.482.

CARE AND RELATIONSHIP FACTOR

There is care and relationship factors influencing respondent's behaviour which includes the people engaged in or available for work, in a hospital or in a particular health sector. They are Doctors, Nurses and all the Health workers available in the hospitals. The respondents who need medical care require doctors treating respondents in a friendly manner, most caring nurses and the staff with whom they could easily approach, including the reception staff. These factors influence the respondent's decision making, faith in treatment, which include the respondent's attitude towards the choice of health service providers. The variables relating to the care and relationship factors are presented in the Table 7.

TABLE NO 7
CARE AND RELATIONSHIP FACTORS

SL. NO	VARIABLES	FACTOR LOADINGS	COMMUNALITY	CRONBACH'S ALPHA
1	Poor relationship with respondent	0.478	0.512	0.841
2	Uncooperative nursing staff	0.462	0.458	
3	Inadequate care from nursing staff	0.421	0.381	
4	Inadequate staff for emergency	0.242	0.167	
5	No proper consulting time	0.260	0.179	

Source: Computed data

With regard to the care and relationship factors, the variables like 'Poor relationship with respondent', 'Uncooperative nursing staff' were the first and second highest factors with the loading of 0.478 and 0.462 respectively and a high communality of 0.512 and 0.458 respectively. The variable 'No proper consulting time' was the least factor with the loading of 0.260, and a low communality of 0.179.

SERVICE QUALITY FACTORS

The service quality is the combined performance of the hospital such as patient care, relationship between staff and patient, personal attention, quality of service which includes standard consulting time, cooperation with front line staff, adequate sitting facility, bed facility, water and sanitation. Normally the problems faced by the patients from the hospitals are uncooperative front line staff, inadequate space, inadequate personal attention and care, long waiting period, lack of lab facility. These factors are affecting the service quality as well as create bad image to the hospitals. The over crowd, unorganized setup and untrained staff create a lacuna persist in the hospital service. The variables relating to the service quality factors are depicted in Table 8.

TABLE NO 8
SERVICE QUALITY FACTORS

SL. NO	VARIABLES	FACTOR LOADINGS	COMMUNALITY	CRONBACH'S ALPHA
1	Lack of personal attention	0.545	0.727	0.765
2	Poor quality of service	0.548	0.609	
3	Tips money demanded by sub staff	0.491	0.532	
4	No quick process in paying bill	0.484	0.589	
5	Inadequate space for patient	0.445	0.441	

Source: Computed data

With regard to the factor, Service quality factors, the variables like 'Lack of personal attention', 'Poor quality of service' are the first and second highest factors with the loading of 0.545 and 0.548 respectively and a high communality of 0.727 and 0.609 respectively. The variable 'Inadequate space for patient' was the least factor with the loading of, 0.445 and a low communality of 0.441.

BASIC FACILITIES FACTORS

Hospital is the service industry; round a clock service is rendered to public. The prominent setup has to provide basic facility to the respondents as well as care taker. Normally the hospital forgets the patient care taker, the care taker need some basic facilities such as food, stay and transport during day and night. These are after the casualty, pediatric and maternal health care services. Especially people from out station require basic facilities such as food, stay and parking facilities. The variables relating to the Basic Facilities factors are presented in the Table 9.

TABLE NO 9
BASIC FACILITIES FACTORS

SL. NO	VARIABLES	FACTOR LOADINGS	COMMUNALITY	CRONBACH'S ALPHA
1	Improper arrangement for patient attender	0.530	0.772	0.721
2	Inadequate stay / food facility for patient attender / care taker	0.529	0.709	
3	No facility for amenities (hot water / Cupboard)	0.673	0.923	
4	Inadequate facility for vehicle parking	0.446	0.467	
5	Inadequate transport availability in night time	0.575	0.639	

Source: Computed data

With regard to the factor, the variables like basic facilities factors explain the 'Improper arrangement for patient attender, 'Inadequate stay / food facility for patient attender / care taker' are the first and second highest factors with the loading of 0.530 and 0.529 respectively and a high communality of 0.772 and 0.709 respectively. The variable 'Inadequate transport availability in night time' was the least factor with the loading of 0.575 and a low communality of 0.639.

FINDINGS & SUGGESTIONS

In this study, the five factors namely 'Unhygienic factors', 'Infrastructure and technology factors', 'Care & Relationship factors', 'Service Quality factors' and 'Basic facilities factors' are extracted out of the twenty five attributes with the help of the factor analysis technique. Each factor had more than one variable and each variable was expressed as a linear combination of the underlying factors. The amount of variance, a variable shares with all the other variables included in the analysis was referred to as communality. All the attributes that are formed under each factor had high association.

The suggestions to maintain and enhance those factors in hospitals are given below,

- The hospital has to implement advance waste management system to maintain the best hygienic environment within the premises as well as entire hospital campus.
- Periodic maintenance and development of infrastructure should be planned and implemented as per hospital standard. Professional maintenance people can be deployed from out sourcing.
- The hospital equipment should be properly maintained and need to be updated as per modern requirement, trained technician should be appointed permanently.
- The hospital has to appoint patient professional counselors like MSW/M.sc Psychology faculties for maintain proper care, individual relationship and feedback with patients.
- The systematic arrangement for single window system for admission, discharge, summary reports, lab report and patients details. These data can be centralized and inter linked through Adhar card by internet and facilities can be made for downloading from anywhere by patient ID number.

4. CONCLUSION

The good health of people in a country causes economic growth and drives the country towards development. In India, Healthcare is at the junction with the government rolling out the biggest publicly funded healthcare plan in the world. Indian government has utilized more funds on prices of medical devices, new health schemes and for tertiary care. However people still fails to utilize the best schemes and services provided by the public hospitals. The primary reason is the poor awareness on the public health schemes and services. This study depicts many problems faced by the patients in hospitals of Tirunelveli district using factor analysis method. In order to enhance the health status of people in Tirunelveli district, many suggestions are proposed to diminish the problems identified in hospitals in this study.

5. REFERENCES

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