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An Analysis of Road Accident Patients Problems in Private Multispecialty Hospitals in Salem District, Tamil Nadu, India

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Abstract

According to the World Health Organization, globally almost 1.24 million people die yearly on the world's roads. In the Indian state of Tamil Nadu, there were roughly 57 thousand traffic accidents in 2019. Every year, traffic inconsistencies are a major cause of death, injury, and property damage. Vehicle over speeding was the leading cause of road accident fatalities in 2019. In World Road Statistics that year, the South Asian country ranked first out of 200 for the number of road accident deaths. With the growing growth of the population and a lack of healthcare facilities in government hospitals, private hospitals have become increasingly important. Vehicle accidents have been increasing in recent years for a variety of causes, including excessive speeding, alcoholic driving, driver distractions, red light jumping, avoiding safety equipment such as seat belts and helmets, non-adherence to lane driving, and improper overtaking. Accident patients choose a hospital according to various reasons such as high-quality treatment, reputation, experienced doctors, nearby accident places and infrastructure facilities. Though the patients are facing some important problems in multispecialty hospitals after met the road accident such as advance payments, high cost of treatments, careless of doctors and nurses and lack of cleanliness of hospitals, etc. That is the reason an attempt has been made to analyse the problems. It is found that high cost, poor quality of treatment, delay for discharge are major issues while taking treatment in the hospitals. Hence, management should avoid these issues to sustain the reputation in the future.

Key-words: Health Care Sector, Road Accident, Patients Problems.

1. Introduction

In terms of revenue and employment, healthcare has become one of India's most important industries. Hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance, and medical equipment are all part of the healthcare industry. The Indian healthcare system is expanding rapidly as a result of improved coverage, services, and increased spending by

both public and private entities. The Indian healthcare system is divided into two categories: public and private. The government, or public healthcare system, has a limited number of secondary and tertiary care institutions in major cities and focuses on delivering basic healthcare in rural regions through primary healthcare clinics (PHCs). The bulk of secondary, tertiary, and quaternary care facilities are run by the private sector, with a concentration in metros and tier I and tier-II cities. The enormous pool of well-trained medical personnel in India is India's competitive advantage. In comparison to its Asian and Western counterparts, India is also cost-competitive. Surgery in India costs around a tenth of what it costs in the United States or Western Europe.

Given its extent and gravity, as well as the resulting negative effects on the economy, public health, and the general welfare of the people, road safety is a national priority. Road traffic injuries are now one of the main causes of deaths, impairments, and hospitalizations worldwide, with significant socioeconomic implications. Road traffic safety refers to the precautions that must be taken to avoid the deaths or injuries of road users. Drivers, passengers, bikers, pedestrians, and other road users are common. The goal of the road safety system is to ensure that in the case of a collision, the impact is not severe enough to cause death or serious injury. Any traffic tragedy is made all the more dismal by the fact that the victims were in excellent health before the collision. According to the WHO, more than one million people die on the road every year. In 2018, India's traffic accidents claimed over 1.5 lakh lives, up 0.46 percent from 2017. In the calendar year 2018, States and Union Territories (UTs) recorded a total of 4,67,044 road accidents, killing 1,51,417 people and injuring 4,69,418 others. Over speeding was responsible for 64.4 percent of the fatalities. India ranked first among the 199 countries recorded in the World Road Statistics, 2018, in terms of road accident mortality, followed by China and the United States. According to the WHO Global Report on Road Safety 2018, India is responsible for over 11 percent of all accident-related deaths worldwide. In 2018, national highways, which account for 1.94 percent of the overall road network, were responsible for 30.2 percent of all traffic accidents and 35.7 percent of all deaths. State highways, which make up 2.97 percent of total road length, were responsible for 25.2 percent of all accidents and 26.8 percent of all deaths. For the third year in a row, young adults aged 18 to 45 years have accounted for roughly 69.6 percent of all traffic accident victims. The age group of 18 to 60 years old accounted for 84.7 percent of all road accident deaths. 5.8 percent of accident-related deaths were due to traffic offenses such as driving on the wrong side of the road. Mobile phone use was responsible for 2.4 percent of the deaths, while intoxicated driving was responsible for 2.8 percent of the fatalities.

According to NCRB data, Tamil Nadu and Uttar Pradesh continue to have the highest number of road accidents and deaths as a result of road accidents in 2018. Tamil Nadu ranks top for the third year in a row, with over 156 road accident incidents each day. Most accidents took between 6 and 9 pm. Tamil Nadu recorded 57,228 road accidents in 2019, followed by Madhya Pradesh with 51,641 and Uttar Pradesh 37,537. In 2018, the State recorded 12,216 deaths which came down to 10,525 in 2019. With over 1,135 cases buses were involved in more number cases in the State. With regards to deaths on National Highways, Tamil Nadu stood third with 3,921 cases, behind Uttar Pradesh and Maharashtra. TN, meanwhile, recorded the highest number of cases on State Highways with 19,279. Out of the 86,241 deaths due to over speeding in 2019, Tamil Nadu has 8,832 deaths after Karnataka with 9,314 deaths. Under the megacities, Chennai holds second place in road accident deaths with 1,252 after Delhi.

2. Review of Literature

During the years 1994–2005, Clarke et al. (2010) looked at a sample of 1,185 fatal accidents in ten UK police jurisdictions. They discovered that excessive speeding and drunken driving were the leading causes of accidents, with drivers having blood alcohol levels over the legal limit. Furthermore, the drivers' young age, driving at night and failing to wear a seat belt all contribute to these fatalities. From 2003 to 2008, Gjerde et al. (2011) looked at 204 fatally injured drivers in South-eastern Norway. The chance of fatal injury in a traffic accident was calculated using logistic regression, which took gender, age, the season of the year, and weekday into account. They showed that the risk for fatal accidents was high with the intake of multiple drugs or alcohol by the drivers. They discovered that drivers who consumed several medications or drank excessive amounts of alcohol were at a higher risk of fatal accidents. In the 1980s, Mohan and Bawa (1985) endeavor to decipher deadly collision trends in Delhi. The study's findings revealed that fatality patterns in Delhi differed from those in highly developed countries. Pedestrians, two-wheeler riders, and bus commuters made up the majority of the fatalities, with motor vehicle occupants accounting for only a small percentage. The authors proposed various short- and long-term safety precautions for Delhi that differed significantly from those proposed for more industrialised high-income countries. Sood (1988) looked into the many elements that influence injury fatality in two-wheeler accidents. One major finding was that motorcyclists who wore helmets had a much lower incidence and severity of head injury than those who did not. Jain et al. (2009) looked at the trends in two-wheeler accidents from 2000 to 2004 in terms of the victim's age and gender, the type of injury experienced the type of

vehicle involved and the temporal distribution of incidents. 77 percent of the victims in the 1,231 accidents were between the ages of 18 and 44, and the accident rate among males (83 percent) was greater than that of females (17 percent). They also discovered that most incidents occurred at a specific time of day (6 p.m.–10 p.m.).

3. Research Objectives

The major goals of this study are to assess the problems that accident patients confront in Salem district multi-specialty hospitals, as well as to make recommendations to hospitals to alleviate the problems that accident patients face.

4. Research Methodology

The study is designed to find out the problems faced by accident patients in the select multi-specialty hospitals in the Salem district. This study incorporated both primary and secondary data. Primary data consist of 369 respondents through convenience sampling method by using an interview schedule. It was designed into three parts. The first parts and second parts contain demographic characteristics and various attributes that are related to medical service questions respectively and the third part comprises various problems that are related to hospital services with help of the Likert five-point scale. To reduce the number of variables into a few manageable factors for identifying the influencing variables, factor analysis was applied.

Table 1 - Problems Faced by the Patients

Statements	**SA**	**%**	**A**	**%**	**N**	**%**	**DA**	**%**	**SDA**	**%**
High cost of treatment/ Exorbitant fees charged	---	---	54	14.60	154	41.70	145	39.30	16	4.30
Careless of doctors, nurses during the surgery	4	1.10	57	15.40	156	42.30	125	33.90	27	7.30
Delay time for discharge	57	15.40	34	9.20	134	36.30	94	25.50	50	13.60
Threatening	25	6.80	---	---	66	17.90	278	75.30	---	---
Laziness	1	0.30	88	23.80	111	30.10	169	45.80	---	---
No patient relationship management	18	490	26	7.00	144	39.00	181	49.10	---	---
Poor quality of treatment	---	---	30	8.10	114	30.90	190	51.50	35	9.50
Lack of cleanliness of the hospitals (Eco – Friendly)	---	---	38	10.30	123	33.30	208	56.40	---	---
Lack of experts (Specialist) doctors	---	---	17	4.60	6	1.60	120	32.50	226	61.20
Advance payment	19	5.10	162	43.90	127	34.40	59	16.00	2	0.50

The various problems faced by the patients of accident care are assessed with help of percentage analysis and different problems involved in the study are not faced by the patients as the majority of the responses for these problems were given in disagree category. The problems examined helps to understand the accident patients' challenges in the study area. The following presents the results of the percentage analysis.

The problem faced by patients in the multi-specialty hospitals is Advance payment (43.90%) which has the majority of responses in the agree category and this major problem prove to be the bottleneck for the accident patients to get admitted in the private hospital. The greater part of the neutral responses are given for the problems of the high cost of treatment/exorbitant fees charged (41.70%), careless of Doctor's nurses during the surgery (42.30%), and delay time for discharge (36.30%). The disagree category of the Likert scale has got majority responses concerning the problems of Threatening (75.30%), Laziness (45.80%), No patient relationship management (49.10%), Poor quality of treatment (51.50%) and Lack of cleanliness of the hospitals (Eco – Friendly) (56.40%) The patients raised strongly disagree responses for problem about lack of experts (Specialist) doctors (61.20%).

The problems involved in the study have revealed that the accident patients don't face any problems that are mentioned and the only difficulty faced by the patients in the multi-specialty hospitals is the advance payment.

5. Factor Analysis – Prominent Problems Faced by the Patients

The problems faced by the patients were assessed with the help of ten variables and those variables are subjected to factor analysis to reduce the dimension of the problems. The factor analysis will help to find out the prominent problems that are faced by the accident patients concerning the services extended by the hospital. The various results of the dimension reduction are as follows.

Table 2 - KMO and Barlett's Test

Measure of Sampling Adequacy: Kaiser-Meyer-Olkin		0.765
Bartlett's Test of Sphericity	Approx. Chi-Square	898.05
	Df	496
	Sig.	**<0.001****

*(**-indicates significance @ 1 % level and *- indicates significance @ 5 % level)*

The above table explains the validity and normality of the variables involved in the factor analysis. The normality of the variables involved in identifying the prominent problems of the

patients is validated by the p-values. The KMO and Barletts test explains that the variables involved have given a significant proportion for the generalization.

Table 3 - Communalities

Communalities	Initial	Extraction
High cost of treatment/Exorbitant fees charged	1.00	0.500
Careless of doctors, nurses during the surgery	1.00	0.255
Delay time for discharge	1.00	0.602
Threatening	1.00	0.716
Laziness	1.00	0.730
No patient relationship management	1.00	0.807
Poor quality of treatment	1.00	0.714
Lack of cleanliness of the hospitals (Eco – Friendly)	1.00	0.448
Lack of experts (Specialist) doctors	1.00	0.655
Advance payment	1.00	0.412
Extraction Method: Principal Component Analysis		

The above table explains the commonalities based on the initial and extracted values of the problems faced by the patients concerning the service quality of patients. The communalities are vital for understanding the gap between the variables in differentiating themselves from one another. It aids comprehension of the variable grouping concerning the factor analysis.

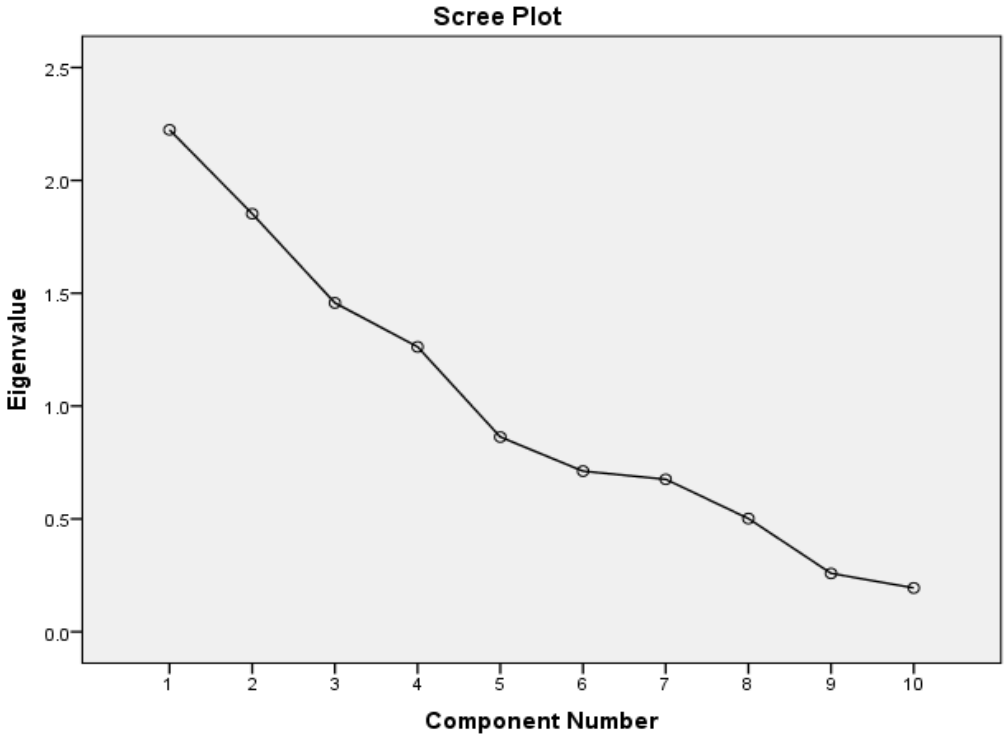
Table 4 - Explained Total Variance

Component	Initial Eigenvalues			Squared Loadings Extraction Sums			Sums of Squared Loadings in Rotation		
	Total	% Variance	% Cumulative	Total	% Variance	% Cumulative	Total	% Variance	% Cumulative
1	2.445	24.445	24.445	2.445	24.445	24.445	2.384	23.841	23.841
2	1.966	19.665	44.11	1.966	19.665	44.11	1.9	19.003	42.844
3	1.429	14.288	58.398	1.429	14.288	58.398	1.555	15.554	58.398
4	1.306	13.057	71.455						
5	0.922	9.22	80.675						
6	0.652	6.524	87.199						
7	0.543	5.432	92.631						
8	0.505	5.051	97.683						
9	0.169	1.686	99.369						
10	0.063	0.631	100						
Extraction Method: Principal Component Analysis									

The variance explains that the factor analysis has extracted three prominent problems based on the opinions of patients towards the service quality. The three factors extracted using the factor analysis have 59 percent of the total views reflected by the patients. These prominent problems affect

the quality of services extended by the hospitals in the study area. The various problems that are explained by the study have to be addressed with proper measures to improve the revisit of patients.

The following scree plot is a diagrammatic representation of the factors formed based on the factor analysis and eigenvalues are taken as the base for drawing the scree plot which is given below.



Scree Plot – Prominent Problems Faced by Patients

Table 5 - Rotated Component Matrix[a]

Component Matrix[a]	Component		
	1	2	3
Poor quality of treatment	0.812		
Threatening	0.748		
High cost of treatment/Exorbitant fees charged	0.702		
Delay time for discharge	0.603		
Advance payment			
No patient relationship management		0.867	
Careless of doctors, nurses during the surgery		0.678	
Lack of cleanliness of the hospitals (Eco – Friendly)			0.737
Laziness			
Lack of experts (Specialist) doctors			
Extraction Method: Principal Component Analysis Rotation Method: Varimax with Kaiser Normalization			
a. Rotation converged in 5 iterations			

The prominent problems faced by the patients that affect the service quality of the hospitals are identified using the factor analysis and it is explained below with the factor as well as variables responsible for the formation of factors.

Dominant Problems –I – Fleecing of Patients

This dominant problem was constituted based on the problems of poor quality of treatment (0.812), Threatening (0.748), High cost of treatment/Exorbitant fees charged (0.702) and Delay time for discharge (0.603).

Dominant Problems –II- Lack of Scientific Management system of Patients

This problem was based on the variables of patient relationship management (0.867) and Careless of doctors, nurses during the surgery (0.678).

Dominant Problem-III- This factor is formed with only one variable which has a strong value to form a factor and since it is only one variable, the factor is named as Lack of cleanliness of the hospitals (Eco – Friendly) (0.737) and other variables of Laziness and Lack of experts or specialist doctors have a value of below 0.700.

The hospital administration has to deal with the problems of fleecing of patients, lack of scientific management system of patients and lack of appropriate facilities have significant impact on the service quality. These problems have been significant in declining the quality of services extended by the hospitals. The hospital has to frame management policies that help solve the problems of service quality as reflected by the patients.

6. Suggestions

- The private multi-specialty hospitals should reduce the high cost of treatment/exhibition fees charged.
- Doctors and nurses should reduce the carelessness during the surgery and recognized their mistake immediately, informed their superior and also told the family.
- The private multi-specialty hospitals should diagnose the reason for change and ideate on possible implementable solutions for improving the efficiency of the discharge process.
- Financial distress has been one of the biggest problems in accident patients so the private multi-specialty hospital should reduce the demand of pay the advance payment.

7. Conclusion

The healthcare industry is the largest in the world, and it is rapidly changing to suit the ever-increasing requirements and wants of the patient population. Hospitals have been operating in a highly competitive market. Hospitals that are active, growth-oriented, and survive place a premium on the quality of services they deliver. Customers are attracted to corporate hospitals because they provide value-added services. In today's competitive healthcare environment, patient satisfaction surveys for a specific service can be valuable market information and research tool in the hands of hospital executives. Multispecialty hospitals in India are improving the level of service they provide to patients daily to endure and satisfy them. In hospitals, patient happiness is critical to providing high-quality medical treatment or diagnosis. People nowadays prefer private multispecialty hospitals for a variety of reasons, including the availability of doctors, 24x7 service, specialised care, advanced equipment, the possibility to book appointments online, a healthy and clean environment, and so on. Various studies on patient expectations and perceptions, as well as road traffic accidents, have been conducted. The researcher attempted to assess the difficulty experienced by accident victims in a private multispecialty hospital in Salem, Tamil Nadu, in this study. According to the report, private multispecialty hospitals should pay more attention to increasing accident patient service and resolving accident patient problems.

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