

Patient Satisfaction and Patient Loyalty at Dental Hospitals in Raipur

DR. R SHRIDHAR

Vice Chancellor

Kalinga University, Raipur Chhattisgarh

Email – vc@kalingauniversity.ac.in

PREETI DASMBA 4TH Semester

Kalinga University, Raipur Chhattisgarh

daspreeti560@gmail.com

ABSTRACT

This study aims to find out and analyze "The Effect of Patient Satisfaction on Patient Loyalty mediated by Patient Trust and Hospital Brand Image at Raipur Educational Dental and Oral Hospital". The data collection technique method uses non-probability sampling with a purposive sampling method. The data was collected directly from a sample that had adjusted the criteria and disseminated through a questionnaire to 250 respondents using a Likert scale of 1-5 where 1 showed strong disapproval, while 5 indicated strongly agreed. The statements in this study consisted of 25 statements obtained from four variables, namely patient satisfaction, patient loyalty, patient trust, and hospital brand image. The questionnaire is distributed through Google Forms. The analytical methods used in this study are Partial Least Square (PLS) and Structural Equation Model (SEM). The results of this study show that patient satisfaction has a positive influence on patient loyalty, patient satisfaction has a positive influence on patient trust, patient trust has a positive influence on patient loyalty, patient satisfaction has a positive influence on hospital brand image, Hospital Brand Image has a positive influence on patient loyalty, patient satisfaction has a positive influence on patient loyalty mediated by patient trust, patient satisfaction has a positive influence on patient loyalty mediated by Hospital Brand Image.

Keywords: *Hospital Brand Image, Patient Loyalty, Patient Satisfaction, Patient Trust*

INTRODUCTION

Under the market economy system, the core of corporate competition is customer-oriented, acquiring and creating customer preferences and loyalty to the quality of the company's services in order to achieve the continuous development of the enterprise. The concept of customer loyalty is the core of marketing, and patient loyalty comes from customer loyalty in business (Liu et al., 2021). From the perspective of public economic research, patient care is the process of exchanging the value of labor between medical service providers. The patient is passively treated in the hospital, and the patient is subjectively reluctant to come back. Therefore, customer loyalty in the healthcare industry differs significantly from other industries (Liu et al., 2021).

In this era of globalization, every company and public institution needs to improve services professionally in their respective fields. Currently, public awareness has grown of the importance of good health, makes health services a top priority for the community. In accordance with the provisions of Law Number 36 of 2009 concerning Health, that all parties, both government and private, organize health development in a coordinated, effective, and efficient manner. The goal is to achieve the highest level of health (RI, 2009). It also highlights everyone's right to access safe, quality, and affordable health sector resources and health services (Juhana et al., 2015).

The doctor-patient relationship is the customer relationship. Medical services for patients are based on the relationship of trust between the supply and demand sides of health services. This is manifested in the patient's willingness to be loyal to the real attitudes and behaviors of the hospital. This situation can bring economic and social benefits to the hospital, reduce the cost of developing and maintaining new customers, provide health value to the patients themselves, and reduce the loss of customers in the hospital. In addition, loyal customers are willing to pay more, express higher purchase intentions, and resist conversions (Liu et al., 2021).

Hospitals are healthcare providers with the principle of trust, and their success is largely determined by the quality of service, satisfaction, and patient loyalty (Yusri et al., 2017). The challenge faced in the service industry is that hospitals must be able to try to provide the best service to patients (Zahra et al., 2022). There is convincing evidence that when patients receive high-quality services in a hospital, they are more likely to return to the same hospital in the future. In addition, the patient will also say positive things and recommend them to their friends and relatives (Arab et al., 2012). Referrals from friends, relatives, and other patients are considered an important source of information for the selection of providers (Arab et al., 2012).

The level of oral health problems is influenced by many factors, such as low income, lack of access to care, and lack of awareness about the need for such care. It was also found that oral health status is influenced by individual beliefs, socioeconomic background, number of visits to the dentist, and oral health behaviors. Furthermore, levels of anxiety and depression are thought to contribute to oral health outcomes. Poor dental and oral health is a major public health problem in India, with around 89% and 74% of the population suffering from dental caries and periodontitis, respectively. One of the most important steps in maintaining good oral health is regular visits to the dentist, as it allows the dentist to assess the risk of oral health problems and provide preventive and restorative care (Santoso et al., 2020).

Consumer reaction to poor service can be measured by two factors, namely loyal or switching to another service provider. Services are difficult to prove until a patient visits and get hospital services. In addition, the quality of services provided to customers may vary from specific hospital visits, which can have an impact on satisfaction and loyalty. One possible cause of declining loyalty is patient dissatisfaction with treatment. The patient then decides to stop using the service for himself or his family (Sofia et al., 2018).

Satisfaction is considered a predictor of behavioral intentions. Satisfied patients will return to the same provider and recommend them to their family and friends (*positive word of mouth*). It is considered that satisfaction reflects a positive assessment of patients from their healthcare experience (Lacap & Alfonso, 2022). Customers who are satisfied with the quality of the services provided cause customer loyalty and increase customer purchase intent. This study was conducted to test the relationship between patient satisfaction and patient loyalty to health services (Yusri et al., 2017).

METHOD

Research Design

This study uses hypothesis testing which aims to test the effect of patient *satisfaction* free variables on bound variables, namely patient *loyalty* with mediation variables, namely *patient trust* and *hospital brand image*. The *unit of analysis* of this study is patients who come regularly

to the Raipur Education Dental and Oral Hospital in the last 2 (two) years. The data from this study is *cross-sectional* data, that is, the data is obtained only within a certain period of time. **Variables and Measurements**

Patient Satisfaction

The free variable in this study was *patient satisfaction* which was defined as the feeling felt by patients based on their assessment of the suitability between their expectations and the performance of the service provider. Customers are happy when performance meets or exceeds expectations, and will be disappointed when not (Sumaedi et al., 2014). The question items used to measure *patient satisfaction* are:

1. The medical treatment I received was perfect
2. During medical visits, I am always allowed to say all my complaints
3. My doctor is very competent
4. The hospital is strategically located
5. There are a few things about the medical system that need to be improved
6. Follow-up after treatment is good
7. I feel confident that I can get the medical care I need without financial restraint
8. Patients do not have to wait long for treatment in this hospital
9. If I need hospitalization, I can be registered directly without any difficulty

Patient loyalty

The variable tied to this study is *patient loyalty* which is defined as a firmly held commitment to consistently reuse preferred services in the future leading to the use of the same service or *brand* (Zhou et al., 2017). The question items used to measure *patient loyalty* are:

1. I will still go to the same hospital in the next five years
2. If I were given the option to choose another hospital, I would still choose the same hospital
3. I consider myself loyal to this hospital
4. For me, this hospital is definitely better than other hospitals
5. I will still be treated in this hospital even if the price of treatment has increased a bit
6. I won't change hospitals if other hospitals offer better prices

Patient trust

The mediation variables in this study were *patient trust* and *hospital brand image*. Patient trust is defined as the patient's belief that a doctor has the skills to perform the diagnosis and treatment necessary for the benefit of the patient so that the patient can receive medical services with confidence (Yang & Wu, 2018). The question items used to measure *patient trust* are:

1. The hospital and its services are in accordance with existing claims
2. Hospitals can fulfill agreements and commitments given
3. Honest and trustworthy staff
4. Hospital staff care and are committed to solving patient problems
5. Hospital staff want the best for patients
6. The hospital is committed to meeting the needs and satisfaction of patients

Brand Image

Brand image is a mediating variable that can be defined as *the brand* perception that is stored in the customer's memory and reflects the customer's overall impression. A positive *brand image* is considered an important ability of the company to maintain its market position (Vimla & Taneja, 2020). The question items used to measure *brand image* are:

1. The hospital has a good reputation
2. The hospital has excellent facilities
3. The hospital has a comfortable environment
4. The hospital provides excellent service

Data Collection Methods

In this study, questionnaires were used as a data collection method. A questionnaire is a method of collecting data that can be given directly to respondents through questions or written explanations. This study used *google Forms* to get samples without being restricted by region. The list of questions includes respondent data and questions about the effect of patient *satisfaction* on patient *loyalty* mediated by *patient trust* and *hospital brand image* at the Raipur Educational Dental and Oral Hospital. The data in this study was obtained from a sample of patients who had been treated regularly at the Raipur Educational Dental and Oral Hospital for the last 2 (two) years. The number of samples in this study refers to the calculation according to Hair et. al (2017) with a minimum of 250 respondents.

Respondent Profiles by Place of Care

DENTAL CLINIC	Number of Respondents	Percentage (%)
Dental Clinic - 1	93	37,2%
Dental Clinic - 2	53	21,2%
Dental Clinic - 3	71	28,4%
Dental Clinic - 4	33	13,2%
Total	250	100%

The table of respondents' profiles based on the place of treatment shows that the majority of respondents are patients who received treatment at Dental Clinic as many as 93 people with a percentage of 37.2%. Furthermore, the second most respondents came from Dental Clinic Universities as many as 71 people with a percentage of 28.4%. Then from Dental Clinic as many as 53 people with a percentage of 21.2%, and Dental Clinic as many as 33 people with a percentage of 13.2%.

Table 3.2 Respondent Profile by Gender

Gender	Number of Respondents	Percentage (%)
Men	115	46%
Woman	133	54%
Total	250	100%

In label's profile, respondents showed that the majority of respondents by gender were women as many as 133 people with a percentage of 54%. There were 115 respondents of the male gender with a percentage of 46%.

Table 3.3 Respondent Profiles by Age

Gender	Number of Respondents	Percentage (%)
17 – 25 years old	159	63,6%
26 – 35 years old	69	27,6%
36 – 45 years old	22	8,8%
46 – 55 years old	8	3,2 %
Total	250	100%

The results of the frequency of the total respondents showed that the majority of respondents who took part in the study aged 17-25 years were 159 people or 63.6%, followed by the age of 26-35 years as many as 69 people or 27.6%, aged 36-45 years as many as 22 people or 8.8%, aged 46-55 years as many as 8 people or 3.2%.

Data Analysis

This study used *partial least square* (PLS) and *variance-based structural equation modeling* (SEM) analysis. There are 2 test models in the PLS test, namely the measurement model and the structural model. This study uses a measurement model, which tests validity and reliability. Structural models are used to see the relationships between research variables.

Measurement Model (*Outer Model*)

Evaluation of the *outer model* is basically to conduct early detection of the ability of each indicator to influence each latent variable in the study. *convergent validity* and *composite reliability* are criteria used as parameters in conducting *outer model* analysis using SmartPLS. **Structural Model (*Inner Model*)**

The next step after doing the *outer model* test is to do the *inner model* test. *Inner model* testing is carried out to see the relationship between the construct, significance value, and *R-square* of the research model.

Evaluation of the PLS structural model begins by looking at the *R-square* of each dependent latent variable. *R-squared* is used to assess how much influence a particular independent latent variable has on the dependent latent variable. The table below is the result of *the R-square* using PLS.

Table 3.10. *R-square*

Variables	<i>R Square</i>	<i>R Square Adjusted</i>
<i>Patient Loyalty</i>	0,503	0,497
<i>Patient Trust</i>	0,322	0,319
<i>Brand Image</i>	0,221	0,218

The value (*R-square adjusted*) for the patient *loyalty* variable was 0.497 or 49.7%. This value indicates that the patient *loyalty* variable can be explained by the *patient satisfaction*, *patient trust*, and *hospital brand image* variables of 49.7% while the remaining 50.3% is influenced by other variables not found in the study.

The value (*R-square adjusted*) for the *patient trust* variable was 0.319 or 31.9%. The value indicates that the *patient trust* variable can be explained by the *patient satisfaction* variable of 31.9% while the remaining 68.1% is influenced by other variables not found in the study.

The value (*R-square adjusted*) for the *brand image* variable is 0.218 or 21.8%. This value indicates that the *brand image* variable can be explained by the *patient satisfaction* variable of 21.8%. While the remaining 78.2% was influenced by other variables that were not contained in the study.

Hypothesis Test

Testing of structural relationship models explains the relationships between research variables. Structural model testing is tested using the T-test. The basis for direct hypothesis testing is the output of images and values contained in the *output of patch coefficients* and *indirect effects*. Here's a full explanation of hypothesis testing: This test was conducted to see whether each independent variable had a significant influence on its dependent variables. The basis for taking the hypothesis is as follows:

- If the *p-value* > 0.05 then H_0 is accepted which can be inferred that there is no significant relationship between the two variables
- If the *p-value* ≤ 0.05 then H_0 is rejected which can be concluded that there is a significant relationship between the two variables

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistical tests are performed to describe and characterize the data in detail. Descriptive statistical tests are examined based on *mean* and standard deviation. The mean is the average value of the respondent's answer, and the standard deviation value indicates the variance of the respondent's answer. A standard deviation value close to zero means less variability in respondents' responses. However, if the standard deviation value is farther from zero, it can be interpreted that the respondent's answer is more different. The following is the result of a descriptive statistical calculation of each variable described through the average value (*mean*) and standard deviation:

Table 4.1
Descriptive Statistics of *Patient Satisfaction* Variables

No.	Questionnaire	Mean	Standard Deviation
1.	The medical treatment I received was perfect	3,976	0,728
2.	During medical visits, I am always allowed to say all my complaints	4,192	0,725
3.	My doctor is very competent	4,356	0,638
4.	The hospital is strategically located	4,300	0,517
5.	There are a few things about the medical system that need to be improved	4,328	0,598
6.	Follow-up after treatment is good	4,436	0,513
7.	I feel confident that I can get the medical care I need without financial restraint	4,124	0,692

8.	In this hospital, patients do not have to wait long for treatment	4,292	0,607
9.	If I need hospitalization, I can be registered directly without any difficulty	4,116	0,738
Average Patient Satisfaction Score		4,236	0,639

Based on the results of *descriptive* patient satisfaction statistics, an average score of 4,236 was obtained, which showed that the average respondent had felt satisfaction with treatment at DETAL CLINIC-P. The standard deviation value in the *patient satisfaction* variable is 0.639. The value indicates that respondents' responses are quite varied.

The first question item gets a *mean* value of 3,976 indicating that the medical care received is impeccable. The second question item gets a mean value of 4.192 which indicates that during a medical visit, the patient is always allowed to say all patient complaints. The third question item gets a *mean* value of 4,356 which indicates the doctor is very competent. The fourth question item gets a mean value of 4,300 indicating that the hospital is strategically located. The fifth question item gets a mean value of 4,328 which indicates that there are some things regarding the medical system that need to be improved. The sixth question item earned a *mean* value of 4,436 indicating that follow-up after treatment was good. The seventh question item earned a *mean* value of 4,124 indicating that the patient felt confident he could get the medical care he needed without financial restraint. The eighth question item gets a mean value of 4,292 which indicates that in this hospital patients do not have to wait long for treatment. The ninth question item gets a mean value of 4,116 which indicates that if it requires hospitalization then the patient can be immediately registered without difficulty.

Table 4.2
Descriptive Statistics of Patient Loyalty Variables

No.	Questionnaire	Mean	Standard Deviation
1.	I will still go to the same hospital in the next five years	4,060	0,712
2.	If I were given the option to choose another hospital, I would still choose the same hospital	4,212	0,699
3.	I consider myself loyal to this hospital	4,144	0,725
4.	For me, this hospital is definitely better than other hospitals	4,140	0,734
5.	I will still be treated in this hospital even if the price of treatment has increased a bit	4,116	0,693
6.	I won't change hospitals if other hospitals offer better prices	4,072	0,736
Average Patient Loyalty Value		4,124	0,716

Based on the results of *descriptive* patient loyalty statistics, an average score of 4,124 was obtained, which showed that the average respondent had the closest loyalty to the hospital

CONCLUSION

Based on the results of the research and discussion processed in the previous chapter, there are 7 hypotheses that are accepted as follows:

1. *Patient satisfaction* has a positive influence on *patient loyalty*.
2. *Patient satisfaction* has a positive influence on *patient trust*.
3. *Patient trust* has a positive influence on *patient loyalty*.
4. *Patient satisfaction* has a positive influence on *hospital brand image*.
5. *Hospital brand image* has a positive influence on *patient loyalty*.
6. *Patient satisfaction* has a positive influence on *patient loyalty* mediated by *patient trust*.
7. *Patient satisfaction* has a positive influence on *patient loyalty* mediated by *hospital brand image*.

Suggestion

1. Further research can be carried out on all Dental and Oral Hospitals in India, not only the Education hospitals in Raipur.
2. Further research can add other variables that can affect *patient loyalty*, such as *service quality* variables (Rosadi et al., 2020)

REFERENCES

1. Phil Hanna. (2003). JSP 2.0: The complete reference. Tata McGraw Hill Edition.
2. J. Clerk Maxwell. (1892). A treatise on electricity and magnetism. (3rd ed.). Oxford: Clarendon, pp.68–73.
3. Ali Bahrami. (1988). Object-oriented system development. (3rd ed.). Tata McGraw Hill Edition.
4. Ivan Bayross. (2009). SQL, PL/SQL programming language of Oracle. (2nd ed.). BPB Publication.
5. Tarhan, A., Turetken, O., & van den Biggelaar, F. J. (2015). Assessing healthcare process maturity: challenges of using a business process maturity model.
6. Areda, C.A., Galato, D. & Federal, D. (2015). Mapping of processes in a hospital pharmacy: tool for quality management and improvement, Brazilian Journal of Hospital Pharmacy and Health Services, 6(3), 27-33.
7. Schriek, M., Turetken, O. & Kaymak, U. (2016). A maturity model for care pathways. Twenty-Fourth European Conference on Information Systems, Research Paper 127 (PDF).
8. David Lake, Rodolfo Milioto, Monique Morrow & Rajesh Vargheese. (2014). Internet of things: Architectural framework for ehealth security. Journal of ICT, River publication.
9. R. Batra and A. S. Pall, "Barriers to adoption of hospital management systems: A study of Punjab healthcare industry," Prabandhan: Indian Journal of Management, vol. 9, no. 11, 2016, doi: 10.17010/pijom/2016/v9i11/105320.
10. R. G. Misal, "Advanced Hospital Management System," Int J Res Appl Sci Eng Technol, vol. 10, no. 6, 2022, doi: 10.22214/ijraset.2022.43686
11. P. K. Yadav and R. Kumar, "Online Hospital Management System," SSRN Electronic Journal, 2022, doi: 10.2139/ssrn.4104606.
12. K.Nishanthan, S.Mathyvathana, R.Priyanthi, A.Thusara, D.I. De Silva, and Dulanji Cooray, "The Hospital Management System," International Journal of Engineering and Management Research, vol. 12, no. 5, 2022, doi: 10.31033/ijemr.12.5.17.
13. D. S. O. O. E. C. M, "Interlinked Hospital Management System," International Journal of Science and Research (IJSR), vol. 7, no. 2, 2018.

14. N. A. Satrio, S. Sukaridhoto, M. U. H. Al Rasyid, R. P. N. Budiarti, I. A. Al-Hafidz, and E. D. Fajrianti, "Blockchain integration for hospital information system management," *Bali Medical Journal*, vol. 11, no. 3, 2022, doi: 10.15562/bmj.v11i3.3540.
15. D. Rizk, H. Hosny, S. ElHorbety, and A.-B. Salem, "SMART Hospital Management Systems Based on Internet of Things: Challenges, Intelligent Solutions and Functional Requirements," *International Journal of Intelligent Computing and Information Sciences*, vol. 0, no. 0, 2021, doi: 10.21608/ijicis.2021.82144.1107.
16. F. Lubrano, F. Stirano, G. Varavallo, F. Bertone, and O. Terzo, "Hams: an integrated hospital management system to improve information exchange," in *Advances in Intelligent Systems and Computing*, 2021. doi: 10.1007/978-3-030-50454-0_32.
17. S. Soman, P. Ranjan, and P. K. Srivastava, "A distributed architecture for hospital management systems with synchronized EHR," *CSI Transactions on ICT*, vol. 8, no. 3, 2020, doi: 10.1007/s40012-020-00301-8.
18. F. A. Alzahrani, "Estimating security risk of healthcare web applications: a design perspective," *Computers, Materials and Continua*, vol. 67, no. 1, 2021, doi: 10.32604/cmc.2021.014007.
19. "Web Based E-Hospital Management System," *Iraqi Journal of Computer, Communication, Control and System Engineering*, 2018, doi: 10.33103/uot.ijccce.18.1.2.
20. A. Singh, "IoT enabled smart hospital management system for Covid-19 patients," *Turkish Journal of Computer and Mathematics ...*, 2021.
21. E. M. Odelia, "Pengembangan Kapasitas Organisasi Melalui Penerapan Sistem Informasi Manajemen Rumah Sakit (SIMRS) Untuk Meningkatkan Mutu
22. Pelayanan Kesehatan di RSUD dr. Mohamad Soewandhie Surabaya," *Kebijakan dan Manajemen Publik*, vol. 6, no. 1, 2018.
23. Dr. M. N. Abdulla, Dr. I. Al-Mejibli, and S. K. Ahmed, "An Investigation Study of Hospital Management Information System," *IJARCCCE*, vol. 6, no. 1, 2017, doi: 10.17148/ijarcce.2017.6184.
24. S. M. H. Bamakan, P. Malekinejad, and M. Ziaeeian, "Towards blockchain-based hospital waste management systems; applications and future trends," *Journal of Cleaner Production*, vol. 349, 2022. doi: 10.1016/j.jclepro.2022.131440.
25. A. A. Hadikasari, U. Indahyanti, C. Cholifah, and U. K. Nisak, "THE EFFECT OF SYSTEM QUALITY ON THE USE OF HOSPITAL MANAGEMENT INFORMATION SYSTEMS AT THE 'AISYIYAH SITI FATIMAH HOSPITAL, SIDOARJO," *Jurnal Penelitian Sekolah Tinggi Ilmu Kesehatan Nahdlatul Ulama Tuban*, vol. 4, no. 1, 2022, doi: 10.47710/jp.v4i1.163.