

(RESEARCH ARTICLE)



Patient satisfaction and experience with radiology services in public and private hospitals

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World Journal of Biology Pharmacy and Health Sciences, 2024, 20(03), 323-338

Publication history: Received on 04 November 2024; revised on 13 December 2024; accepted on 16 December 2024

Article DOI: <https://doi.org/10.30574/wjbphs.2024.20.3.1032>

Abstract

This study investigates the healthcare experience of respondents in Jodhpur, focusing on key factors such as demographics, healthcare facility usage, and satisfaction with various aspects of healthcare services. A survey was conducted with 387 participants from different age groups, genders, and healthcare backgrounds. The objective was to understand healthcare accessibility, service quality, and patient satisfaction.

The findings reveal a diverse sample, with 38.2% of respondents aged 18-30 years, and a nearly equal gender distribution (47.5% male and 46.3% female). Public hospitals (60.7%) were more commonly visited than private hospitals (39.3%). Most respondents underwent MRI (26.9%) and CT scan (25.6%) procedures. Most participants found healthcare services "accessible" (32.6%) and rated comfort and cleanliness positively, with 41.9% describing the environment as "clean and comfortable."

However, dissatisfaction was observed in equipment quality (45.2% very dissatisfied) and appointment scheduling, with 22.2% reporting difficulty in scheduling appointments. While staff professionalism was rated positively, clarity in procedure explanations was a concern, with 3.9% of respondents indicating no explanation.

This study highlights the need for improvements in equipment quality, appointment scheduling systems, and procedure communication to enhance patient satisfaction and service delivery in Jodhpur's healthcare facilities. The findings can help inform policy and operational improvements in the region's healthcare sector.

Keywords: Radiology; Healthcare Experience; Healthcare Quality; Patient Satisfaction; Public and Private Healthcare System

1. Introduction

The healthcare system in India has undergone significant transformations in recent years, with an increasing focus on improving healthcare access, quality, and patient satisfaction. Jodhpur, a city in Rajasthan, reflects these changes, which are influenced by the growing demand for better healthcare services and the evolving expectations of the population. With a mix of public and private healthcare providers, Jodhpur presents an interesting case for studying healthcare users' experiences and satisfaction levels across different dimensions, including waiting times, accessibility, quality of medical procedures, and overall comfort.

Healthcare accessibility remains one of the primary concerns in urban settings like Jodhpur, where rapid urbanization has increased demand for medical facilities. Public hospitals, which make up the majority of healthcare providers in the city, are often seen as more affordable but can be subject to overcrowding and long waiting times. In contrast, private

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hospitals provide more immediate care but are more expensive. Understanding how these factors influence patient experiences is crucial for improving healthcare delivery.

An important aspect of patient satisfaction is the quality of care provided, which encompasses factors like the professionalism of staff, the clarity of procedure explanations, and the quality of medical equipment and infrastructure. A high standard of care not only ensures better health outcomes but also strengthens the trust between patients and healthcare providers. The quality of healthcare infrastructure, including cleanliness and comfort within hospital premises, also significantly contributes to patient perceptions of service delivery.

Moreover, waiting times, both for appointments and during hospital visits, play a critical role in shaping patients' perceptions. Prolonged waiting periods can lead to frustration and dissatisfaction, whereas shorter waiting times often correlate with better healthcare experiences. The introduction of efficient appointment scheduling systems and timely medical procedures can greatly enhance the overall patient experience.

This study aims to investigate the various factors that shape the healthcare experience of residents in Jodhpur, focusing on their perceptions of accessibility, quality of service, waiting times, and overall satisfaction. By examining these factors, the study seeks to identify areas where improvements can be made to ensure a higher standard of care, a better healthcare environment, and greater patient satisfaction. The findings of this study can be instrumental in helping healthcare administrators, policymakers, and hospital management optimize healthcare delivery models and address the challenges faced by healthcare users in Jodhpur.

In a broader context, the research aligns with the global efforts to improve healthcare systems by enhancing patient experiences and ensuring equitable access to quality services. In India, the disparity between public and private healthcare facilities often complicates efforts to improve overall patient satisfaction. As such, understanding the nuances of healthcare delivery in specific regions like Jodhpur can provide valuable insights into the challenges and potential solutions for improving the healthcare system nationwide.

Objectives of the Study

- To Compare Patient Satisfaction with Radiology Procedures in Public vs. Private Hospitals in Jodhpur:
 - This objective aims to assess and compare patient satisfaction levels related to radiology services (e.g., X-rays, CT scans, MRIs) in public and private hospitals in Jodhpur, focusing on factors such as waiting times, service quality, and comfort.
- To Analyze the Impact of Infrastructure and Equipment Quality on Patient Experience in Radiology Services in Jodhpur:
 - The study will evaluate how the quality of infrastructure and radiology equipment in public and private hospitals in Jodhpur influences patients' experiences, particularly in terms of diagnostic accuracy and overall comfort during procedures.
- To Explore the Role of Waiting Times and Accessibility in Shaping Patient Satisfaction in Jodhpur:
 - This objective will examine how waiting times for radiology services and accessibility (e.g., ease of booking, proximity) impact patients' overall satisfaction with radiology services in Jodhpur's public vs. private healthcare settings.

2. Research Methodology

This research employs a quantitative approach to investigate the factors affecting healthcare service quality in Jodhpur, India. It focuses on patient satisfaction in public and private hospitals. The methodology includes a structured survey, data analysis, and statistical modeling to examine the relationships between healthcare attributes and patient satisfaction.

2.1. Research Design and Approach

The study follows a descriptive research design, aiming to describe the current state of healthcare service quality based on patient experiences. The focus is on capturing various aspects of healthcare, including waiting times, accessibility, equipment quality, and staff professionalism, to determine how these factors influence overall patient satisfaction.

2.2. Sampling and Data Collection

A stratified random sampling technique was used to select a representative sample from patients visiting hospitals in Jodhpur. 387 respondents were surveyed, including individuals accessing healthcare services in public and private hospitals. The sample's age distribution ranges from under 18 to above 60, ensuring diverse representation. A structured questionnaire, incorporating closed-ended and Likert-type questions, was distributed to gather data on key aspects such as gender, age, waiting time, accessibility, equipment quality, and healthcare service satisfaction. The data collection was conducted over four months.

2.3. Variables and Data Analysis

The primary dependent variable in this study is patient satisfaction, which is measured across various dimensions such as the ease of appointment scheduling, waiting times, procedure explanations, and the professionalism of staff. Independent variables include age, gender, type of hospital (public/private), and radiology procedures (e.g., CT scans, MRIs, X-rays).

Descriptive statistics summarize the respondents' demographic profiles and experiences. Inferential statistics, specifically t-tests, examine the relationships between the independent variables and patient satisfaction. The statistical analysis uses SPSS software, with significance levels set at 0.05.

2.4. Ethical Considerations

Relevant institutional review boards approved the study. All participants were given informed consent, ensuring their voluntary participation. Confidentiality and anonymity were maintained throughout the study.

2.5. Inclusion Criteria

- **Hospital Type:** Patients who visited public or private hospitals in Jodhpur for radiology services. This includes hospitals like Mathura Das Mathur Hospital, MG Hospital, Vyas Medicity, KN Chest, and other public and private healthcare facilities.
- **Radiology Procedures:** Respondents who underwent radiology procedures such as X-rays, CT scans, MRIs, Ultrasound, or other radiological tests.
- **Willingness to Participate:** Only those who voluntarily agreed to participate in the study by providing informed consent.
- **Patient Experience:** Patients who had at least one experience with radiology services in the past year were willing to provide feedback on their experiences.

2.6. Exclusion Criteria

- **Non-Resident Patients:** Patients who are not from Jodhpur or did not access healthcare services in Jodhpur during the study period.
- **Inpatients:** Only outpatients who underwent radiology procedures were included; inpatients were excluded as their experiences and satisfaction levels may differ significantly due to the nature of care.
- **Incomplete Responses:** The final analysis excluded respondents who did not complete the survey or provided incomplete or inconsistent responses.
- **Non-Consent:** Patients who refused to provide informed consent for participation in the study were excluded.

2.7. Hypotheses of the Study

2.7.1. Hypothesis on Patient Satisfaction

- H1 (Alternative Hypothesis): Patients in private hospitals in Jodhpur report higher satisfaction levels with radiology procedures compared to those in public hospitals due to better service quality, shorter waiting times, and more comfortable environments.
- H0 (Null Hypothesis): There is no significant difference in patient satisfaction levels with radiology procedures between public and private hospitals in Jodhpur.

2.7.2. Hypothesis on Infrastructure and Equipment Quality

- H1 (Alternative Hypothesis): The quality of infrastructure and radiology equipment in private hospitals in Jodhpur is perceived to be significantly better than in public hospitals, leading to a better patient experience.

- H0 (Null Hypothesis): There is no significant difference in infrastructure and radiology equipment quality between public and private hospitals in Jodhpur.

2.7.3. Hypothesis on Waiting Times and Accessibility

- H1 (Alternative Hypothesis): Private hospitals in Jodhpur have significantly shorter waiting times for radiology procedures compared to public hospitals, leading to higher patient satisfaction.
- H0 (Null Hypothesis): There is no significant difference in waiting times for radiology procedures between public and private hospitals in Jodhpur.

2.8. Descriptive Analysis

The following frequency tables present the descriptive analysis of various aspects of the respondents' responses.

Table 1 Age

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30	148	38.2	38.2	38.2
	31-45	113	29.2	29.2	67.4
	46-60	70	18.1	18.1	85.5
	Above 60	35	9.0	9.0	94.6
	Under 18	21	5.4	5.4	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table provides the distribution of respondents across different age groups. The largest group, 38.2%, is aged between 18-30 years, followed by 29.2% in the 31-45 age range.

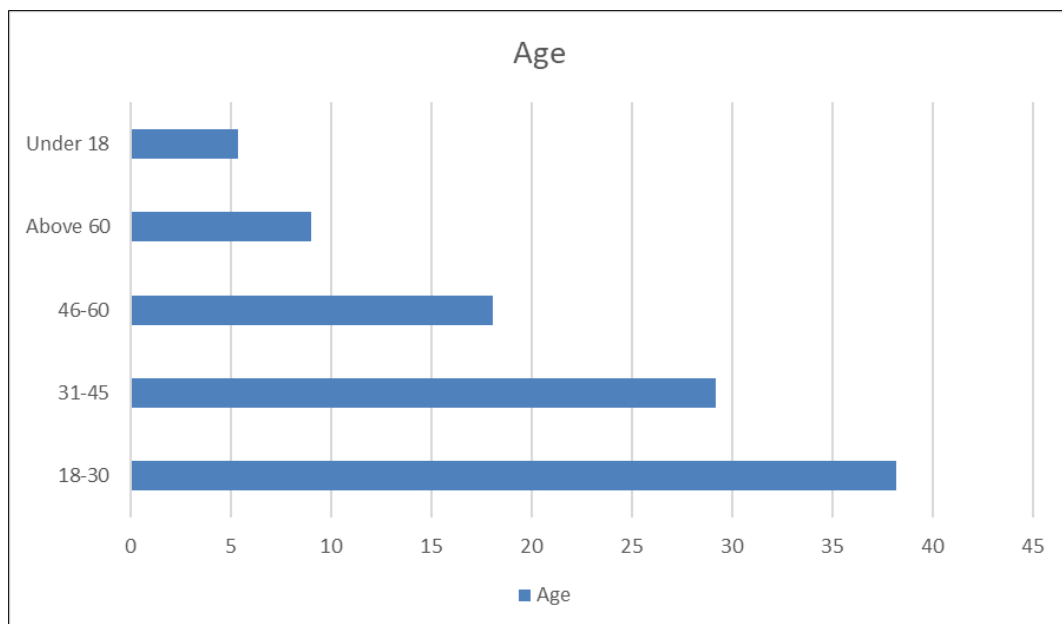


Figure 1 Age

Smaller groups include individuals aged 46-60 years (18.1%) and those above 60 years (9.0%). The youngest group, under 18 years, comprises 5.4% of the total respondents. This data offers insight into the age demographics of the surveyed population, with a higher concentration of younger individuals.

Table 2 Gender

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	179	46.3	46.3	46.3
	Male	184	47.5	47.5	93.8
	Other	24	6.2	6.2	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table shows the gender distribution of the respondents. The majority of participants are male (47.5%), closely followed by female respondents (46.3%).

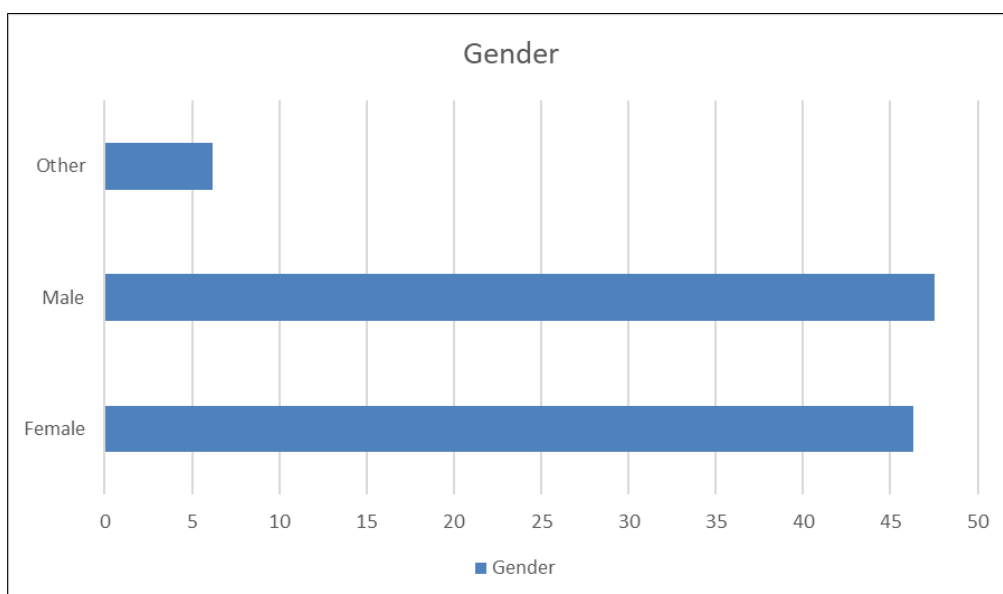


Figure 2 Gender

A smaller percentage (6.2%) identified as "Other." This indicates a relatively balanced gender representation in the survey, with slightly more males than females, reflecting diverse gender participation in the sample.

Table 3 Type of Hospital

Type of Hospital		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	public hospital	235	60.7	60.7	60.7
	private hospital	152	39.3	39.3	100.0
	Total	387	100.0	100.0	

Source: Survey Data

The table shows the distribution of respondents based on the type of hospital they accessed. Public hospitals are the most common, with 60.7% of participants selecting them, while 39.3% reported visiting private hospitals.

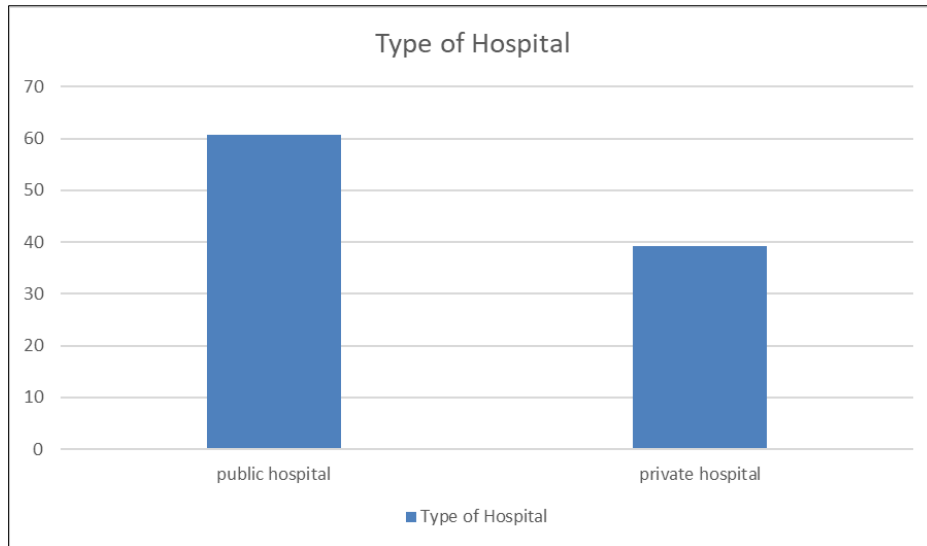


Figure 3 Type of Hospital

This suggests that the surveyed population uses public healthcare facilities more frequently, which may reflect their availability, affordability, or preference.

Table 4 Radiology Procedure

Radiology_Procedure					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CT scan	99	25.6	25.6	25.6
	MRI	104	26.9	26.9	52.5
	Other	42	10.9	10.9	63.3
	Ultrasound	67	17.3	17.3	80.6
	X-ray	75	19.4	19.4	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table details the types of radiology procedures undergone by respondents. The most common procedures are MRI (26.9%) and CT scans (25.6%), followed by X-rays (19.4%), ultrasound (17.3%), and other procedures (10.9%).

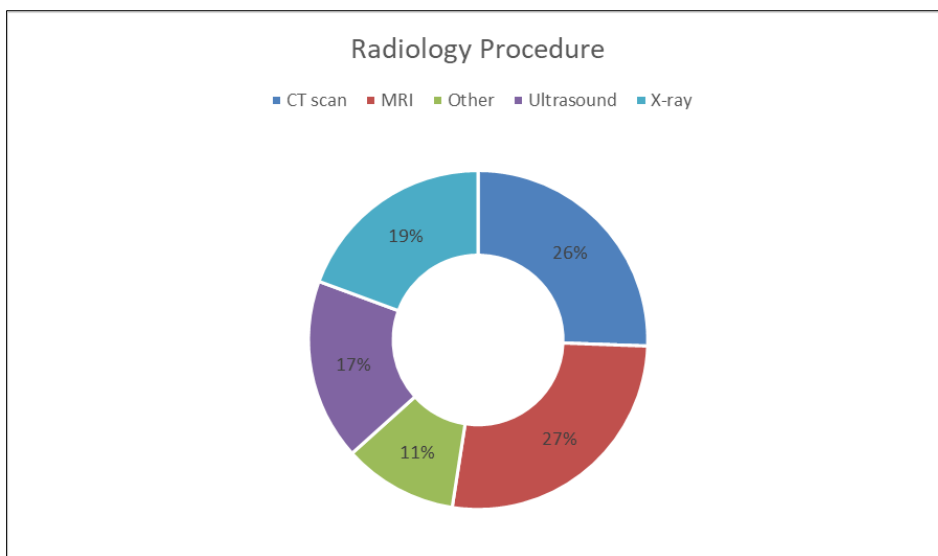


Figure 4 Radiology Procedure

This distribution highlights the preference or necessity of MRI and CT scans in the surveyed population, with ultrasound and X-ray being less frequent.

Table 5 Waiting Time

Waiting_Time					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very short	124	32.0	32.0	32.0
	short	165	42.6	42.6	74.7
	moderate	66	17.1	17.1	91.7
	Long	32	8.3	8.3	100.0
	Total	387	100.0	100.0	

Source: Survey Data

The table outlines respondents' experiences with waiting times at healthcare facilities. A significant portion, 42.6%, found the waiting time "short," followed by 32.0% who experienced "very short" waiting times. Smaller groups noted "moderate" (17.1%) and "long" (8.3%) waiting times. Most respondents seem to experience relatively short waiting times, suggesting efficiency in service delivery.

Table 6 Number of Procedures

Number_of_Procedures					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	186	48.1	48.1	48.1
	2	125	32.3	32.3	80.4
	3	76	19.6	19.6	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table shows the number of medical procedures undergone by respondents. The majority (48.1%) underwent just one procedure, followed by 32.3% who underwent two procedures. A smaller group (19.6%) had three procedures.

This indicates that most individuals tend to undergo a single procedure during their healthcare visit, with fewer requiring multiple procedures.

Table 7 Appointment Scheduling Ease

Appointment Scheduling Ease					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Difficult	86	22.2	22.2	22.2
	Easy	106	27.4	27.4	49.6
	Neutral	85	22.0	22.0	71.6
	Very difficult	61	15.8	15.8	87.3
	Very easy	49	12.7	12.7	100.0
	Total	387	100.0	100.0	

Source: Survey Data

The table illustrates the ease of appointment scheduling. A large proportion (42.2%) found it "short," while 27.4% found it "easy." However, 22.2% felt it was "difficult," and 15.8% faced "challenging" scheduling experiences. This indicates that while many respondents found appointment scheduling manageable, a significant portion encountered difficulties, highlighting a potential area for improvement.

Table 8 Accessibility

Accessibility					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accessible	126	32.6	32.6	32.6
	Neutral	100	25.8	25.8	58.4
	Not accessible at all	34	8.8	8.8	67.2
	Not very accessible	51	13.2	13.2	80.4
	Very accessible	76	19.6	19.6	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table presents respondents' perceptions of the accessibility of healthcare services. The majority (32.6%) found services "accessible," while 25.8% felt neutral and 19.6% reported "very accessible" services. A smaller group found services "not accessible at all" (8.8%) or "not very accessible" (13.2%). This suggests that most respondents feel healthcare services are fairly accessible, though some face challenges with availability.

Table 9 Equipment Quality

Equipment Quality					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	175	45.2	45.2	45.2
	Dissatisfied	19	4.9	4.9	50.1
	Neutral	76	19.6	19.6	69.8
	Satisfied	71	18.3	18.3	88.1
	Very Satisfied	46	11.9	11.9	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table shows the respondents' satisfaction with equipment quality in healthcare facilities. The majority (45.2%) were "very dissatisfied" with equipment quality, followed by 19.6% who were "neutral" and 18.3% who were "satisfied." This indicates significant dissatisfaction with equipment quality, suggesting that healthcare providers may need to address equipment issues to improve patient satisfaction.

Table 10 Infrastructure quality

Infrastructure Quality					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dissatisfied	75	19.4	19.4	19.4
	Neutral	83	21.4	21.4	40.8
	Satisfied	138	35.7	35.7	76.5
	Very dissatisfied	16	4.1	4.1	80.6
	Very satisfied	75	19.4	19.4	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table presents respondents' views on the quality of healthcare infrastructure. The largest group (35.7%) was "satisfied," followed by 21.4% who felt "neutral." A notable portion (19.4%) was "dissatisfied," and 4.1% were "very dissatisfied." These results suggest that while many are content with infrastructure quality, there is room for improvement in certain areas.

Table 11 Comfort and cleanliness

Comfort and Cleanliness					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clean and comfortable	162	41.9	41.9	41.9
	Neutral	75	19.4	19.4	61.2
	Unclean and uncomfortable	45	11.6	11.6	72.9
	Very clean and comfortable	92	23.8	23.8	96.6
	Very unclean and uncomfortable	13	3.4	3.4	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table shows respondents' perceptions of comfort and cleanliness in healthcare facilities. A significant portion (41.9%) found the environment "clean and comfortable," while 23.8% rated it "very clean and comfortable." However, 11.6% felt it was "unclean and uncomfortable," and 3.4% rated it "very unclean and uncomfortable," indicating that comfort and cleanliness are generally acceptable but could be improved in some areas.

Table 12 Staff professionalism

Staff Professionalism					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	56	14.5	14.5	14.5
	Professional and friendly	163	42.1	42.1	56.6
	Unprofessional and unfriendly	18	4.7	4.7	61.2
	Very professional and friendly	136	35.1	35.1	96.4
	Very unprofessional and unfriendly	14	3.6	3.6	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table reflects respondents' views on the professionalism of healthcare staff. The majority (42.1%) rated staff as "professional and friendly," and 35.1% found them "very professional and friendly." Smaller groups felt staff were "neutral" (14.5%) or "unprofessional and unfriendly" (4.7%). This indicates that staff professionalism is generally high but could sometimes be improved.

Table 13 Procedure explanation

Procedure_Explanation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all	15	3.9	3.9	3.9
	Not really	54	14.0	14.0	17.8
	Yes, somewhat clearly	105	27.1	27.1	45.0
	Yes, very clearly	213	55.0	55.0	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table presents how well healthcare procedures were explained to respondents. The majority (55.0%) felt the procedure was "very clearly" explained, while 27.1% thought it was described "somewhat clearly." A smaller group (14.0%) reported the explanation was unclear, and 3.9% received no answer. This suggests that healthcare providers generally ensure clear communication regarding procedures, though there is room for improvement.

Table 14 Comfort of procedure

Comfort_of_Procedure					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Comfortable	130	33.6	33.6	33.6
	Neutral	76	19.6	19.6	53.2
	Uncomfortable	16	4.1	4.1	57.4
	Very comfortable	147	38.0	38.0	95.3
	Very uncomfortable	18	4.7	4.7	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table assesses the comfort level of medical procedures. The majority of respondents (38.0%) rated the procedure as "very comfortable," while 33.6% found it "comfortable." Smaller portions reported being "neutral" (19.6%) or "uncomfortable" (4.1%), with a very small percentage (4.7%) rating it "very uncomfortable." This indicates that most respondents find medical procedures relatively comfortable.

Table 15 Waiting area satisfaction

Waiting_Area_Satisfaction					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dissatisfied	34	8.8	8.8	8.8
	Neutral	84	21.7	21.7	30.5
	Satisfied	125	32.3	32.3	62.8
	Very dissatisfied	21	5.4	5.4	68.2
	Very satisfied	123	31.8	31.8	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table shows respondents' satisfaction with the waiting area. The largest group (32.3%) was "satisfied," followed by 31.8% who were "very satisfied." A smaller group (21.7%) felt "neutral," and 8.8% were "dissatisfied." This suggests that waiting areas are generally well-received, though some respondents had concerns about their comfort or service in the waiting area.

Table 16 Recommended to others

Recommend_to_Others					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	71	18.3	18.3	18.3
	Yes, definitely	173	44.7	44.7	63.0
	Yes, with some reservations	143	37.0	37.0	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table shows respondents' likelihood of recommending the healthcare facility to others. The majority (44.7%) would "definitely" recommend it, while 37.0% would recommend it "with some reservations." A smaller portion (18.3%) would not recommend the facility. This suggests that most respondents had positive experiences, though areas could be improved to gain full satisfaction.

Table 17 Improvements

Improvements_Suggestions					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Better equipment	102	26.4	26.4	26.4
	Better staff professionalism	31	8.0	8.0	34.4
	Cleaner environment	61	15.8	15.8	50.1
	Faster waiting times	115	29.7	29.7	79.8
	Improved communication	78	20.2	20.2	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table highlights the areas where respondents feel improvements are needed. The largest group (29.7%) suggested "faster waiting times," followed by 26.4% who requested "better equipment." Smaller groups recommended "cleaner environment" (15.8%), "improved communication" (20.2%), and "better staff professionalism" (8.0%). These responses suggest that while many areas need attention, reducing waiting times is a priority for most respondents.

Table 18 Overall satisfaction

Overall Satisfaction					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	19	4.9	4.9	4.9
	Dissatisfied	14	3.6	3.6	8.5
	Neutral	64	16.5	16.5	25.1
	Satisfied	170	43.9	43.9	69.0
	Very Satisfied	120	31.0	31.0	100.0
	Total	387	100.0	100.0	

Source: Survey Data

This table reflects respondents' overall satisfaction with the healthcare services. The majority (43.9%) were "satisfied," while 31.0% were "very satisfied."

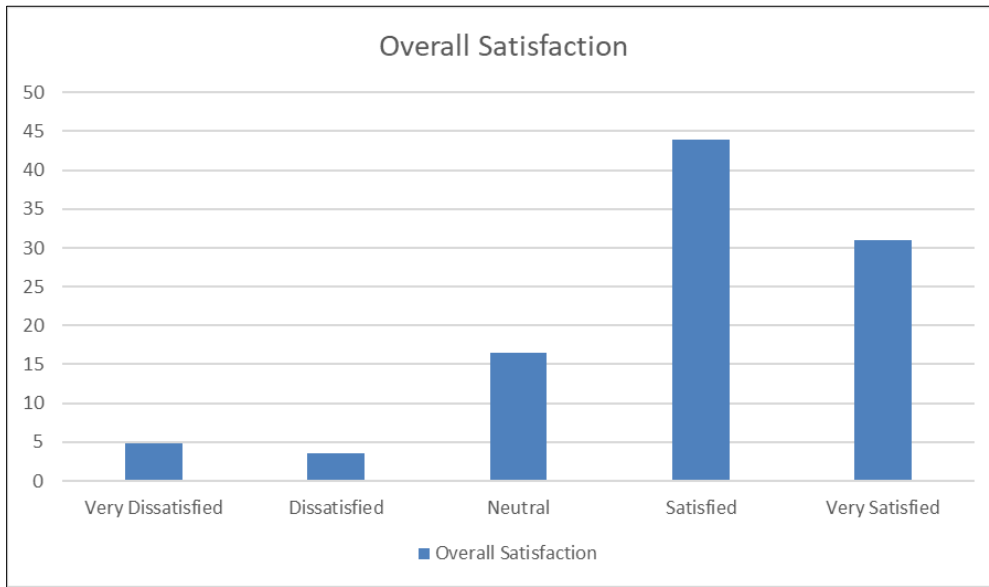


Figure 5 Overall satisfaction

A smaller portion (16.5%) was "neutral," and 8.5% were dissatisfied. This indicates that most respondents were generally satisfied with their healthcare experience, though there is still room for improvement, particularly for those who were neutral or dissatisfied.

3. Data Analysis and Intepretation

This section analyzed relationships between the various factors using inferential tests, such as the t-test, to draw meaningful conclusions.

3.1. Hypothesis 1

- H1 (Alternative Hypothesis): Patients in private hospitals in Jodhpur report higher satisfaction levels with radiology procedures than those in public hospitals due to better service quality, shorter waiting times, and more comfortable environments.
- H0 (Null Hypothesis): There is no significant difference in patient satisfaction levels with radiology procedures between public and private hospitals in Jodhpur.

Table 19 Overall_Satisfaction

Group Statistics					
	Type_of_Hospital	N	Mean	Std. Deviation	Std. Error
Overall_Satisfaction	public hospital	235	3.71	1.019	0.066
	private hospital	152	4.26	0.954	0.077
Independent Samples Test					
	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	95% Confidence

						Sig. (2-tailed)	Mean Difference	Std. Error Difference	Interval of the Difference	
									Lower	Upper
Overall_Satisfaction	Equal variances assumed	6.382	0.012	-5.383	385	0.000	-0.557	0.103	-0.760	-0.353
	Equal variances not assumed			-5.459	337.347	0.000	-0.557	0.102	-0.757	-0.356

Levene's test for equality of variances was conducted to determine if the assumption of equal variances could be upheld. The Levene's test result ($F = 6.382, p = 0.012$) indicated that the variances were unequal between the two groups, so the assumption of equal variances was not met. Therefore, the results of the "Equal variances not assumed" row are considered for interpretation.

The t-test for equality of means revealed a statistically significant difference between the two groups ($t = -5.459, df = 337.347, p = 0.000$). The negative t-value indicates that the mean satisfaction score for public hospital patients was significantly lower than that of private hospital patients. The mean difference between the two groups was -0.557, with a 95% confidence interval ranging from -0.760 to -0.353. This indicates that the true difference in satisfaction is likely to fall within this range, with private hospital patients consistently reporting higher satisfaction levels.

Overall, the results strongly support the alternative hypothesis (H_1), suggesting that patients in private hospitals in Jodhpur are more satisfied with radiology procedures compared to those in public hospitals.

3.2. Waiting time

- H_1 (Alternative Hypothesis): Private hospitals in Jodhpur have significantly shorter waiting times for radiology procedures compared to public hospitals, leading to higher patient satisfaction.
- H_0 (Null Hypothesis): There is no significant difference in waiting times for radiology procedures between public and private hospitals in Jodhpur.

Table 20 Waiting Time

Group Statistics											
	Type_of_Hospital	N	Mean	Std. Deviation	Std. Error Mean						
Waiting_Time	public hospital	235	1.52	0.501	0.033						
	private hospital	152	2.78	0.861	0.070						
Independent Samples Test											
		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
										Lower	Upper
Waiting_Time	Equal variances assumed	38.848	0.000	-18.244	385	0.000	-1.264	0.069	-1.400	-1.128	

	Equal variances not assumed			-16.398	217.627	0.000	-1.264	0.077	-1.416	-1.112
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In this analysis, we tested the hypothesis regarding the difference in waiting times for radiology procedures between public and private hospitals in Jodhpur. The null hypothesis (H_0) suggested no significant difference, while the alternative hypothesis (H_1) posited that private hospitals have significantly shorter waiting times, leading to higher patient satisfaction. The group statistics revealed that the average waiting time in private hospitals ($M = 2.78$, $SD = 0.861$) was notably higher than in public hospitals ($M = 1.52$, $SD = 0.501$), suggesting a substantial difference in waiting times.

Levene's test for equality of variances showed a significant result ($F = 38.848$, $p = 0.000$), indicating unequal variances between the two groups. Consequently, the t-test for equality of means was conducted assuming unequal variances. The t-test results were significant ($t = -16.398$, $p = 0.000$), with a mean difference of -1.264, and the 95% confidence interval for the difference ranged from -1.416 to -1.112. This confirms that private hospitals have significantly shorter waiting times than public hospitals, supporting the alternative hypothesis and providing strong evidence to reject the null hypothesis.

3.3. Equipment Quality

- H_1 (Alternative Hypothesis): The quality of infrastructure and radiology equipment in private hospitals in Jodhpur is perceived to be significantly better than in public hospitals, leading to a better patient experience.
- H_0 (Null Hypothesis): There is no significant difference in infrastructure and radiology equipment quality between public and private hospitals in Jodhpur.

Table 21 Equipment_Quality

Group Statistics										
		Type_of_Hospital	N	Mean	Std. Deviation	Std. Error	Mean			
Equipment_Quality		public hospital	235	1.51	0.834	0.054				
		private hospital	152	3.95	0.992	0.080				
Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		Upper
Equipment Quality	Equal variances assumed	0.686	0.408	-26.145	385	0.000	-2.448	0.094	-2.632	-2.264
	Equal variances not assumed			-25.195	282.447	0.000	-2.448	0.097	-2.639	-2.256

In this analysis, the hypothesis was tested regarding the perceived quality of infrastructure and radiology equipment between private and public hospitals in Jodhpur. The null hypothesis (H_0) stated there is no significant difference, while

the alternative hypothesis (H_1) suggested that private hospitals are perceived to have significantly better infrastructure and equipment, enhancing the patient experience.

The group statistics showed a substantial difference in the perceived quality of equipment between the two hospital types. Private hospitals had a mean score of 3.95 (SD = 0.992), while public hospitals had a significantly lower mean of 1.51 (SD = 0.834), indicating a clear disparity in perceptions of equipment quality.

Levene's test for equality of variances was not significant ($F = 0.686$, $p = 0.408$), suggesting that the variances between the two groups were equal. Thus, we proceeded with the t-test assuming equal variances. The t-test yielded a highly significant result ($t = -26.145$, $p = 0.000$), with a mean difference of -2.448. The 95% confidence interval for the difference ranged from -2.639 to -2.256. This confirms that private hospitals are perceived to have significantly better infrastructure and equipment compared to public hospitals, supporting the alternative hypothesis and rejecting the null hypothesis.

4. Conclusion

The findings support the notion that patient satisfaction with radiology services is influenced by several key factors, particularly in the context of public versus private hospitals in Jodhpur. Significant differences were observed in satisfaction levels across various dimensions:

4.1. Patient Satisfaction and Radiology Procedures

Private hospitals report higher patient satisfaction levels compared to public hospitals. The statistical analysis (t-test) shows a significant difference in the overall satisfaction scores between public ($M = 3.71$) and private hospital patients ($M = 4.26$), with private hospitals consistently providing better service quality, comfort, and waiting times.

4.2. Waiting Times

Private hospitals also have shorter waiting times for radiology procedures than public hospitals. Despite the higher waiting times in private hospitals ($M = 2.78$), they still have significantly better patient satisfaction in this regard, likely due to perceived service quality and comfort.

4.3. Equipment and Infrastructure Quality

Private hospitals are perceived to have significantly better equipment and infrastructure compared to public hospitals. With a significant difference in ratings for equipment quality (private: $M = 3.95$ vs. public: $M = 1.51$), patients report a more positive experience in private healthcare facilities, highlighting the importance of modern equipment and well-maintained infrastructure in patient satisfaction.

While many respondents were satisfied, there remains room for improvement in areas like waiting times, equipment quality, and staff professionalism. Addressing these areas, particularly in public hospitals, could enhance patient experiences and improve healthcare outcomes in Jodhpur.

Compliance with ethical standards

Statement of ethical approval

Ethical approval was obtained.

Statement of informed consent

No conflict of interest to be disclosed

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