

Review Article

To study the perception of the Indian population towards health care services in government hospitals of India

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A B S T R A C T

In India, the public health system consists of a collection of state-owned healthcare institutions funded and managed by the central and state governments. The research aims to study the perception of the Indian population towards healthcare services in government hospitals in India. If we talk about the healthcare system in India, it is still far behind the developed countries in terms of facilities. There are not even sufficient doctors that can treat the patients. The lack of doctors is a significant concern, especially in rural areas where doctors are unavailable. Many rural areas also face the issue of a lack of medicine. This study also demonstrates whether the people were satisfied with the healthcare system in India during the COVID-19 pandemic. The study also focuses on understanding the patient's expectation vs services they receive in government hospitals which help to understand the expectations of the respondents from the government hospital. The study also reflects the people's knowledge about government schemes and policies for healthcare.

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1. Introduction

Many systems are available for treating patients, like Homeopathic, Allopathic, Ayurveda, Unani, and Siddha in the country still people are not getting proper treatment. There are various reasons why people do not receive adequate health care, including financial constraints, a vast population, a lack of facilities, a shortage of doctors who can monitor patients, and a lack of devices in hospitals that allow doctors to check patients thoroughly. A patient roams around various laboratories and hospitals to get a full body scan. Apart from that, it is also seen that the availability of medicines is also a significant concern, especially in rural areas. In rural areas, the doctors are very few; the rural health statistics report states that the required number of doctors at PHCs in rural areas is 24,918, and 8,638 positions are vacant, and it has been seen most commonly that there are several unprofessional doctors without any medical degree who treat the patients by going to their homes. This can cause misuse of drugs as well as the patient's life can also be at some risk. As we are talking about the patient's life, health insurance is far behind developed countries. When they go to the hospital for treatment, people have to pay the money out-of-pocket rather than the insurance.^{1,2} Patient satisfaction studies have recently acquired popularity and use because they allow healthcare practitioners and administrators to improve services in public health institutions. (Assefa et al., n.d.)

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2. Literature review

The aim of reporting public health issues and challenges was to determine the necessities of health that requires multisectoral collaboration and interdisciplinary coordination. The researcher suggested accelerating public health in India; the need was to ensure that all people, including those living in slums, have access to and use primary health care. For this, healthcare infrastructure must be strengthened; the workforce should be increased public-private partnerships must be formed, enforced, and maintained (Chauhan, 2011)

In an attempt to examine the issues that a public hospital faces in-depth concerning the social, economic, and political roots in India, the study on challenges confronting public hospitals, their origin, and possible solutions show that the ruling class of the country, as well as the development model owned by that class, are the Root of current difficulties confronting public hospitals. They noticed that inadequate infrastructure, an insufficient workforce, over-patient load, uncertain service quality, and reimbursed expenditure shortage of doctors are the leading reasons for challenges in public hospitals, which, in addition to impacting the delivery of healthcare resources, also harm the overall functioning of the health team. This scenario demands widespread general mobilization, particularly among the working class, to support legislative initiatives to destroy the country's elite control over healthcare and the medical profession. (Bajpai, 2014)

A patients satisfaction survey was conducted by Andhra Pradesh Vaidya Vidhana Parishad (APVPP), the largest provider of first referral services in Andhra Pradesh; the goal was to assess patient satisfaction with services provided by the public hospital in two ways: in terms of quality of medical care and effectiveness of treatment and second, patient satisfaction provides other indirect dimensions also.^{3–6} The research outcomes highlighted the area to be improved, such as corruption by all levels of hospital staff, including doctors, nurses, and other supporting staff, lack of utilities like water supply, fans, lights etc., poor maintenance of toilets and very poor general cleanliness, lack of respect for the feelings of the patient and it was also determined that conducting a patients satisfaction survey is crucial for understanding the present situation of public hospitals and that such surveys should be performed every six months. (Mahapatra, 2001)

A patient satisfaction survey was conducted to look for possible perception gaps in services utilized by patients and families in government hospitals. It also tries to identify the factors that substantially impact patient satisfaction and identifies the problems that affect providing good healthcare service in public hospitals. The great markers of happiness found by the researcher were services related to the patient's treatment, care, assistance, and cleaning services. One of the biggest causes of infrastructure problems is an increased patient burden relative to the doctor-patient or nurse-patient balance, especially in government hospitals. The ideal healthcare system will provide logical, accessible, and highquality care, with strict but healthy governance to assure responsibility. (Debnath & Ray, 2019)

An attempt to assess the quality of primary health care services provided by private and public providers in rural and urban India, as well as the gaps that need to be filled to enhance health care quality in developing nations like India. The Indian government, in collaboration with other donors and organizations, has made significant investments in basic structure, medical equipment, and primary care delivery to the general populace. A vast majority of rural India receives treatment from professionals who lack formal training; in rural regions, the number of untrained caregivers is 15 times that of qualified clinicians. Indeed, evidence indicates that unable private-sector physicians followed the checklist more closely than their public-sector counterparts and that their treatment regimens were no worse. According to a study comparing public and private ambulatory healthcare in low- and middle-income nations, the private sector puts forth more effort.⁷⁻⁹ Although no detailed data from research in India exists, recent studies from other low-income countries show that better payment strategies (for example, performance-based reimbursement), better screening, and the provision of denser peer networks might increase provider effort. (Das et al., 2012)

An aim of researching patients' perceptions and expectations from primary healthcare in India was to evaluate patient satisfaction indices at the family physician level, which is usually the patient's initial point of contact with the healthcare system. According to the research, private healthcare providers remain the primary choice for medical care. At the primary care level, there is an apparent gap between patients' increased demands for more excellent information, connection with health professionals, diagnosis, and good facilities. To attain Universal Health Coverage, this gap must be addressed to promote community adoption of primary healthcare services and relieve the burden on tertiary care services. The findings also aid in a better understanding of the issues that private and public primary care practitioners in low-income metro areas encounter. (Ardey & Ardey, 2015)

To determine the future and kind of logistic services required in a hospital needed to make sure patients satisfaction and to identify the adoption of logistic services and their implication on patient satisfaction, as per the patient satisfaction assessment in multi specialty government hospitals of India indicates that each medical condition is a necessary condition for the patient and caretakers and any issue in that may result in disappointment.^{10–12} The researcher focuses on various topics that patients and their families suffer regarding multiple aspects of medicine. (Harnagle et al., 2014)

The purpose of reporting hospital utilization and outof-pocket expenditure in public and private sectors under the universal government health insurance scheme in Chhattisgarh was to discover admission, consumption (public and private), and over-expenditure for patients with and without insurance. Patients being insured still incur high expenses. As per the reports, government hospitals have no costs and still are underprivileged. According to the healthcare consumption patterns in India, the poor are more likely to use the public sector for healthcare, making it more accessible than the private sector. Poor using shared services is due to budgetary barriers that can be eliminated by health insurance. (Nandi et al., 2017)

The satisfaction of OPD (Outpatient Department) patients in Madhya Pradesh's public health facilities was measured to assess their attitudes toward public health facilities, registration procedures, basic amenities, doctors and other staff, pharmacy, and dressing room services. It emphasizes the essential factors influencing a patient's decision to visit a particular hospital. The data analysis found that practically all patients are aware of the services provided by the government hospital. The results demonstrate that there is a considerable variation in four criteria when it comes to locality. It's noteworthy to note that there is no substantial variation in results regarding occupation. Finally, a significant difference is discovered when assessing the reaction to money because patients expect higher-quality care as their income rises. According to the study, patients are satisfied with the services given by the government hospital. However, there is always the possibility of improvement in the facilities. (Sodani et al., 2010)

The report concentrated on patients' impressions of government hospital services to identify how people feel about the services offered by government hospitals. Also, talk about how patients know about the hospital's health services. As a result of this backdrop, the paper successfully shows the significant factors that influence a patient's decision to choose a hospital. The data analysis found that practically all patients are aware of the services provided by the government hospital and that the government hospital's services are satisfactory to the patients. Hospital facilities, on the other hand, maybe upgraded in the future to identify the regions and reasons for low patient satisfaction and recommend ways to enhance it. (Kumar & Devi, 2018)

An attempt to assess patient satisfaction with several aspects of high-quality health care in hospitals has shown several issues that need to be addressed to enhance hospital service quality. Infrastructure and architectural changes are required to improve the comfort and contentment of the patients. To avoid unnecessary strain on tertiary health institutions, patients must be channelled through the stages of health care. Improvements to the waiting room, such as making it more informational and positive, are also required. There is also an urgent need to communicate effectively with patients about their disease and treatment, especially the often overlooked but most effective preventive aspect, to allay their fears, clear up misunderstandings, adhere to treatment, and develop trust in the health system to achieve good health. (Kumari et al., 2009)

3. Materials and Methods

3.1. Study design

This study was based on primary research in which close-ended questionnaires related to infrastructure, healthcare professionals, facilities provided during covid, and government health policies were designed.

3.2. Study population

The data was collected from different states across India.

3.3. Research methodology

Exploratory and Descriptive research

3.4. Sample size and sampling technique

The data were obtained from 264 respondents, and the method used for collecting the Sample was convenient non-random sampling through an online survey.

3.5. Software used for statistical analysis and visualization

Tools like Excel, IBM SPSS V23, and IBM AMOS V23 were used to perform Descriptive and Exploratory statistics (Chi-square, Correlation tests like Spearman-Rank Correlation, factor analysis, SEM). The visualization part was done using Tableau Public 2020.4.

3.6. Procedure

The questionnaire that was circulated among respondents contained 21 questions which included demographic types (name, age, state, gender, income, etc.) and inquiries related to the healthcare system in their respective localities. Some of the questions were asked regarding the satisfaction level of the people with the healthcare system during the COVID-19 pandemic (Vaccination, Testing, Cash benefits from the government, Ventilators and Oxygen availability).

4. Results and Discussions

4.1. Demographic study

Data survey consists of 264 responses 64.4% were male respondents, and 35.6% were female respondents. Among the Sample, 25.8% of respondents were from rural areas, and 74.2% were from urban areas. The majority of

responses (88.6%) were between the ages of 18 and 25, with 6.8% coming from the ages of 26 to 35, remaining from 36 to 50, and beyond 50. Approximately 44.6% of respondents reported themselves as healthcare professionals. The maximum number of respondents (61%) were in the income category of rupees 0 - 50,000 annually, 30.7% had an annual income between 50,000 to 500000 rupees, remaining 8.3% of respondents had a revenue of more than 500000 rupees annually.

The Sample was collected from different states. Most respondents were from Gujarat (167), followed by Maharashtra (57). State-wise sample collection is represented in figure 1

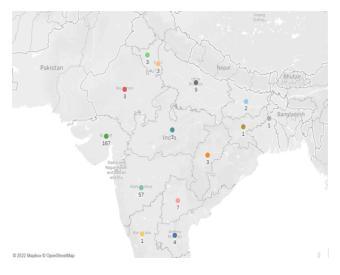


Figure 1: State-wise sample distribution

4.2. Association between the Geographical area and rating of the healthcare system in government hospitals

To check the association between Geographical location and the rating of the healthcare system in government hospitals, two variables were asked of respondents, i.e., Geographical area (which was in this case either a rural area or urban area) and to rate the healthcare system (using Likert's scale from 1 - 5) where one is highly dissatisfied and five is delighted.

- 1. *Null Hypothesis* (H_0) : There is no relation between the Geographical area and the rating of the healthcare system in government hospitals.
- 2. Alternate Hypothesis (H_1) : There is a relation between the Geographical area and the rating of the healthcare system in government hospitals.

Results of the data from the Geographical area and rating of the healthcare system in government hospitals by using the chi-square test (N= 264, p = 0.247) as the probability value (p-value) is more significant than 0.05, Null hypothesis is accepted, which indicates there is no relation between

Geographical area and rating of the healthcare system in government hospitals.

From which area do you belong? * How will you rate the healthcare system in government hospitals (including doctors, nurses, pharmacies, laboratories, and other staff)? Cross tabulation.

Total
58
96
.64

Correlation between participants' expectations vs services received from government hospitals: Spearman's rank correlation test was performed between the participant's expectations vs services received from government hospitals. The correlation (r) value with a 99% confidence interval was found to be 0.609, indicating a high correlation between participants' expectations vs services received.

			Basic expectation	Service onsreceived
	basic	Correlation Coefficient	1.000	.609**
Spearman's rho	expectations	Sig. (2- tailed)		.000
		Ν	264	264
	Service	Correlation Coefficient	.609**	1.000
	received	Sig. (2- tailed)	.000	
		N	264	264

**. Correlation is significant at the 0.01 level (2-tailed).

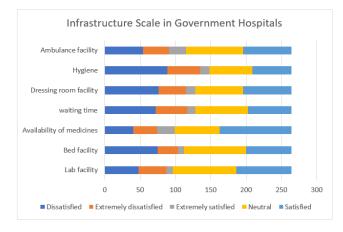
4.3. Infrastructure scale in government hospital

Here 5-point Likert scale model (in which 1- Extremely dissatisfied, 2- Dissatisfied, 3- Neutral, 4- Satisfied, 5- extremely Satisfied) was designed to understand the satisfaction level of respondents towards the infrastructure of government hospitals such as lab facility, bed facility, availability of medicines, waiting for time, dressing room facility, hygiene, and ambulance facility. It was found that 32.95% of respondents were satisfied with the lab facility, and 34.09% of respondents were dissatisfied with the bed facility, and 33.3% were neutral about it. On the other side, 47.7% of respondents were satisfied with the availability of medicines, the majority (44.31%) were dissatisfied with the

Table 1: Chi-square tests

Value	df	Asymp. Sig. (2-sided)
5.422 ^a	4	.247
4.826	4	.306
264		
	4.826 264	4.826 4

waiting time for consultancy in the hospital, and 43.56% were dissatisfied with the dressing room facility. Hygiene was the primary concern for respondents, as 51.13% were dissatisfied, 30.68% of respondents had a neutral response to the ambulance facility, and 34.84% were unhappy with it.





5. SEM Analysis

To check the correlation among the different factors in the data set, other variables in the data were grouped by performing the factor analysis according to the loading values (> 0.5). After that, vital variables are formed, representing small variables. This analysis is shown in Table-; before factorization, KMO (Kiser-Mayer-Olkin) and Bartlett test (Table) are performed to check the sample adequacy for performing. A Study on Factors Influencing Indian population towards healthcare services in government hospitals. The p-value obtained in KMO is 0.917 (>0.7), which proves that the Sample is adequate for factor analysis and from Bartlett's test of sphericity p-value is found to be 0.000, which further proves that factors can be formed from the sample data. The data has a commonality of more than 0.5, which means that it will explain more than 50% of the variance of the data.

All the above tests were carried out in IBM SPSS V 22 Software. The Factorised data were carried forward to perform confirmatory factor analysis in IBM AMOS V 23 software. Structural equation modelling was also conducted

Table 2: KMO and bartlett's test

Kaiser-Meyer-Olkin Adequacy.	Measure	of	Sampling	.917
Bartlett's Test of Sphericity	Approx. C di Sig	f	quare	3198.954 136 .000

	Initial	
		Extraction
LF	1.000	.738
BF	1.000	.748
AOM	1.000	.714
WT	1.000	.692
DRF	1.000	.752
HYG	1.000	.643
AF	1.000	.590
LOC	1.000	.366
Т	1.000	.739
OA	1.000	.862
VA	1.000	.819
BA	1.000	.817
V	1.000	.533
BE	1.000	.710
SR	1.000	.724
ROS	1.000	.670
Q	1.000	.741

according to the priorly hypothesized model to check the correlation among latent factors (along with manifest variables) and to identify what factors impact a different variable in the hypothesized model. To do that, Cronbach's α (Table 4) was checked for reliability. The alpha values are shown above, and we can call them the values satisfactorily. This signifies that the variable grouping done according to factor analysis is closely related and hence an excellent sign to carry out the CFA and the structural equation modelling (SEM) on the determined data set. To perform the CFA and prove that the model is a perfect fit, the hypothesized model was drawn in AMOS graphics, all endogenous and exogenous variables were correctly placed, and the error factors were also applied to the required variables; at the end, the variables were correlated by connecting with arrows

Rating	Lab facility	Bed facility	Availability of medicines	waiting time	Dressing room facility	Hygiene	Ambulance facility
Dissatisfied	48	75	40	72	76	89	54
Extremely dissatisfied	39	29	34	45	39	46	37
Extremely satisfied	9	8	25	11	13	13	24
Neutral	90	88	64	75	68	61	81
Satisfied	78	64	101	61	68	55	68
Total	264	264	264	264	264	264	264

Table 4: Descriptive statistics

	Ν	Mean	Std. Deviation	Cronbach's a
Healthcare	264	2.886	1.0937	
Infrastructure LF				
BF	264	2.799	1.0251	
AOM	264	3.163	1.1861	
WT	264	2.701	1.1258	0.915
DRF	264	2.773	1.1343	
HYG	264	2.621	1.1405	
AF	264	2.955	1.1788	
LOC	264	3.258	.8599	
Services received during Covid T	264	3.038	1.1161	
OA	264	2.652	1.1234	
VA	264	2.591	1.0819	0.909
BA	264	2.591	1.0993	
V	264	3.409	1.2143	
Expectations & Services BE	264	3.280	.9172	
SR	264	3.333	.9160	
ROS	264	3.333	.8691	0.869
Q	264	3.235	.9381	
Valid N (list-wise)	264			

to test our research theory. After running the analysis, the factor loading number is checked in hands, and for model fit following statistics are checked; CFI (Comparative Fit Index), RMSE (Root Mean Square Error), and TLI (Tucker Lewis Index) values should fall near the ideal weight to get accepted as a good fit.

The statistical values of different model fit parameters obtained are Comparative fit Index (CFI) 0.937, Root means square error (RMSEA) 0.085, Tucker Lewis Index (TLI) 0.917, Comparative fit index (CFI) 0.931 signifies that the model has satisfactory results to be called as the model fit. The probability level achieved was significant (P = 0.001). Next to this CFA, the SEM modelling was performed, as shown in Figure 3.

6. Results

After performing data analysis (Descriptive, CFA, SEM), we found that Healthcare infrastructure is the most influencing factor, which helps as deciding factor for choosing healthcare services in government hospitals. In SPSS, the Eigenvalues, KMO & Bartlett test are the prerequisites for performing all analyses. The test was performed, and significant values were obtained. The confirmatory analysis was performed, and all different statistical outputs of AMOS analysis were found satisfactory to call it a good fit model. Finally, SEM analysis showed us the various factors that are influencing the other elements with a significant value.

7. Conclusion

Nearly 36.7% of respondents were satisfied with the distance of government hospitals from their location, and 45.8% had a neutral reaction. 44.3% of respondents reported that an ambulance takes 15-30 minutes to reach their place in an emergency, and 24.2% said it takes nearly 30-60 minutes to get to their location. Only 1.9% of respondents reported that there are no ambulance services in their locality during emergencies. 48.9% of respondents said

			Estimate	S.E.	C.R.	Р	Label
F1	<—	Healthcare Infrastructure	139	.063	-2.189	.029	
F1	<—	Services received during covid	.021	.073	.284	.776	
F1	<—	Expectations Services	1.076	.090	12.014	***	
L.F.	<—	Healthcare Infrastructure	1.000				
BF	<—	Healthcare Infrastructure	.950	.053	17.925	***	
AOM	<—	Healthcare Infrastructure	1.017	.064	15.761	***	
W.T.	<—	Healthcare Infrastructure	.968	.061	15.831	***	
DRF	<—	Healthcare Infrastructure	1.025	.060	17.183	***	
HYG	<—	Healthcare Infrastructure	.942	.063	14.875	***	
A.F.	<—	Healthcare Infrastructure	.907	.068	13.403	***	
LOC	<—	Healthcare Infrastructure	.382	.056	6.828	***	
Т	<—	Services received during covid	1.000				
OA	<—	Services received during covid	1.183	.070	16.992	***	
V.A.	<—	Services received during covid	1.119	.067	16.603	***	
B.A.	<—	Services received during covid	1.129	.069	16.440	***	
V	<—	Services received during covid	.831	.083	10.002	***	
B.E.	<—	Expectations Services	1.000				
SR	<—	Expectations Services	.998	.074	13.581	***	
ROS	<—	Expectations Services	.902	.070	12.847	***	
Q	<—	- F1	1.000				

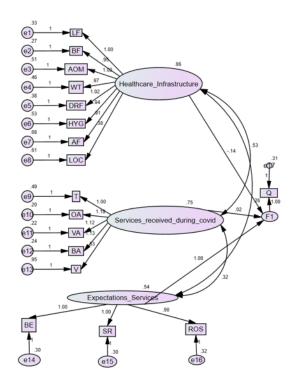
Table 5: Regression	weights: (Group number	l - Default model)

The above results were obtained by the analysis performed in AMOS. In the Table, it's evident that there are variables that have a significant impact on each other (95% confidence) as the P (significance) value is 0.001 (in the table output, it is represented as *).

Table 6: Covariance

			Estimate	S.E.	C.R.	Р	Label
Healthcare	<->	Services received during	.529	.070	7.552	***	
Infrastructure		covid					
Healthcare	<->	Expectations Services	.264	.052	5.046	***	
Infrastructure							
Services received	<->	Expectations Services	.318	.053	6.049	***	
during covid							

The above results in the Table evident that covariance between the individual variables is best fitted concerning each other



they faced issues when they went to the hospital and the doctor was not available to consult. 40.9% of respondents reported that it takes almost more than 1-2 hours in the hospital to make an appointment, consulting a doctor to take medicines prescribed by the doctor in a government hospital. Almost 80.7% of respondents reported that they prefer private hospitals to government ones.

8. Source of Funding

None

9. Conflict of Interest

None.



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