

Enhancing Service Quality: The Impact of NABH Accreditation on Healthcare Delivery in Hospitals

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Abstract: In the current healthcare environment, delivering and maintaining quality healthcare services are crucial in meeting patient expectations and ensuring safety. Fostering trust in patients is not only important to survive in market but also for gaining competitive advantage. In order to provide quality health services National Accreditation Board for Hospitals & Healthcare Providers (NABH) has emerged as a significant catalyst focusing on quality and patient safety. The aim of this research was to know the importance of NABH and how it influences and enhances the quality of healthcare services. The research was conducted by collecting data from patients of the NABH accredited hospitals in Bengaluru. NABH standards and dimensions of SERVQUAL was considered for the research. Multiple Regression analysis was performed to know the impact of NABH accreditation on healthcare quality using SPSS. The outcome of the research indicates that implementation of NABH standards positively impacts the hospital service quality.

Key Words: Service Quality, NABH Accreditation, NABH accredited hospitals, SERVQUAL, Healthcare Services

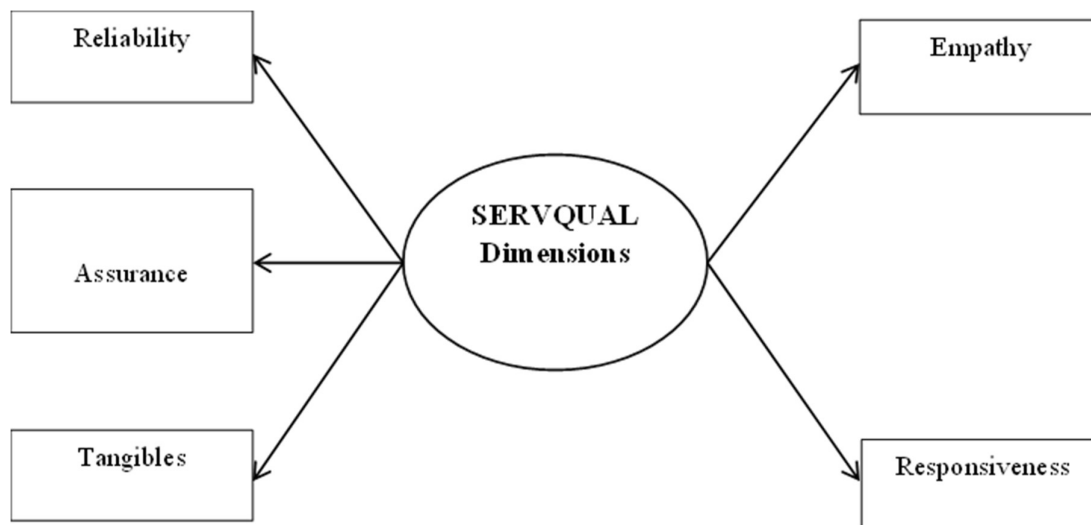
1. Introduction

Healthcare sector is a unique service sector which demands and focuses on safety and quality assurance. Healthy population is one of the key factors that contributes to the success of any country. India being fastest growing economy in the world is competing with other countries

in providing good healthcare facility and is turning up as a destination for medical tourism preferred over other Asian countries along with Thailand and Singapore.

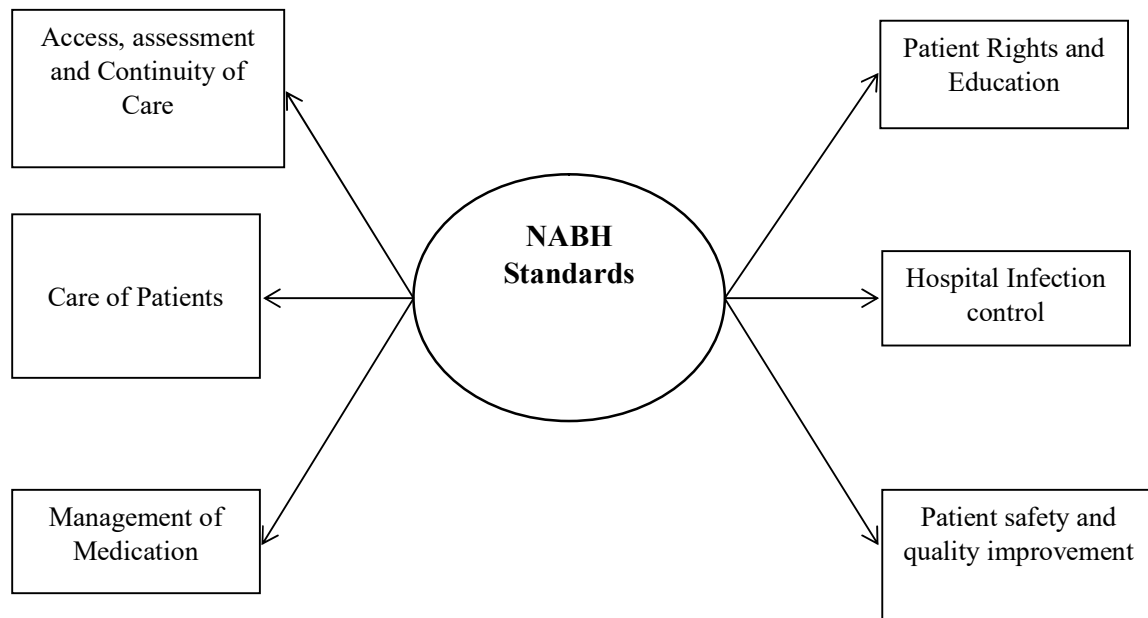
In the contemporary world people are more concentrating and prioritizing the fitness and wellness. Due to lifestyle, stress, food habits, awareness, fitness, insurance facility a greater number of people are visiting hospitals [2]. The socio- economic status or increase in the standard of living is demanding the best healthcare delivery from hospitals [5].

To survive and compete in the healthcare market, delivering and consistently maintaining quality care services has become utmost important [3, 25]. Quality of healthcare service helps the hospitals to satisfy and retain its customers. Healthcare services are involved with risk of life. Hence, compromising with quality of service delivered by hospitals cannot happen. Choice of hospital and loyalty is not easy for customers with the influence of perceived service quality as hospital services are by itself unique service and has many dimensions to assess which is difficult to understand. The heterogeneity, intangibility, inseparability, perishability characteristics of services makes it difficult to measure service quality. The most popular model widely used to measure service quality is SERVQUAL model by Parasuraman, Zeithaml, and Berry. Reliability is about meeting promises, assurance is building trust, tangible is physical infrastructure, empathy represents personal care and responsiveness is about how healthcare providers respond to patients and their family [8,23].



[Fig. 1 shows the five dimensions of SERVQUAL to measure the quality of services]

National Accreditation for Hospitals and Healthcare providers (NABH) is a constituent board of the Quality Council of India (QCI). NABH provides the accreditation standards for hospitals and healthcare providers to implement focusing on delivering quality care, infection control and patient safety. NABH accreditation is not only about setting the benchmark and giving guidelines to hospitals but also ensures continuous process of analytical self-improvement. The accreditation process involves a rigorous evaluation of healthcare facilities against established standards encompassing various dimensions of care, such as Access assessment and continuity of care, patient rights, infection control, medication management, healthcare personnel, patient safety, and organizational governance [18]. NABH accreditation helps hospitals in getting global recognition by complying with internationally accepted safety and quality healthcare service protocol [16, 22]. NABH standards enhance the service quality in hospitals through standardising the process of healthcare delivery from admission to discharge reducing variability in care, focusing on patient safety, improving customer experience focusing patient safety, reducing medical errors, addressing grievances, competent staff, adopting advanced medical practices, improving operational workflow, optimizing resource utilization, building confidence in stakeholders [2, 19].



[Fig. 2 shows the NABH Accreditation Standards]

NABH provides 100 standards divided into ten chapters to assess the quality of health services in hospitals First five chapters provide patient centric standards and next five

chapters provides management centric standards [12]. Access, assessment and continuity of care (AAC) – This chapter provides guidelines related to admission process, process for assessment and reassessment, transfer in case required treatment facility is not available, discharge protocols to be followed. Care of Patients (COP) – This chapter provides standards which aims at treating patients uniformly and encouraging safety. Management of Medication (MOM) - This chapter standards guides medication process and safe storage, dispensing, prescription and administration of medications. Medications includes medical supplies, consumables, blood, implants, devices. Medical supplies should be available when required and used properly [21]. Patient Rights and Education (PRE) – This chapter sets the standards for protecting the rights of patients and educating them regarding the treatment in the language they are comfortable [9]. It's the responsibility of the healthcare providers to ensure patients' rights are promoted. It also gives insights on right to know the cost of treatment, get patient's pr family members consent for treatment, refusal of treatment by patients. Hospital Infection Control (HCI) – The standards in this chapter ensures the healthcare services with infection prevention and control by implementing effective process of biomedical waste, antibiotic policy, sterilization activities [24]. Patient Safety and Quality Improvement (PSQ) – This chapter deals with protocols for safety of patients which is the core objective of NABH accreditation along with quality. Continuous monitoring of quality improvement is done through the standards and safety goals.

2. Review of Literature

Related works have been reviewed in the area of Service Quality, NABH, Hospitals, SERVQUAL dimensions, Healthcare sectors.

Yarimoglu, E. (2021)- Stated that the increasing importance of healthcare sector is forcing in measuring service quality in hospitals. Public hospitals are not able to concentrate on service quality because it is overcrowded and hence service quality in private hospitals is higher than public hospitals. It was suggested to use SERVQUAL in place of SERVPERF scale that shows only performance-based perceptions of service quality.

Bayad Jamal Ali (2021) – Stated that service industry to survive has to concentrate on its customers, fulfil needs, meet expectations through which business image can be strengthen. Due to its characteristics service industries face difficulties and the chances of getting failure is high as compared to manufacturing industry.

Navdeep Kaur (2020)- discussed that hospitals are providing service in the manner they have understood the parameters as good quality but understanding the expectations of patients and how management perceives the same needs synchronization in order to achieve customer satisfaction.

Amna (2020) – Stated that accreditation is important to deliver high quality. Accreditation had no difference on infrastructure but other aspects, process and outcome have effect and improved the quality.

Shafiq, M (2017)- Discussed that with five dimensions of service quality reliability dimension showed poor performance as patients lack confidence in the healthcare provided to them. Also stated that there exists a huge gap between patient's expectation and patient's perception.

Kalutharawithna (2017) – Stated that both Service quality and patient satisfaction should be considered together for the stability of the hospital. Physical aspects, hospital policy and reliability influence the patient satisfaction.

3. Statement of the Problem

Hospitals account for 80% of the healthcare industry in India. It involves in human caring and curing diseases with risk of life. The healthcare quality is of utmost important both for quality providers and patients. It is said that the standards of NABH ensure improved healthcare quality and patient safety through regular assessments. Knowing whether patients have positive experience in the service quality of accredited hospitals and are satisfied is important both to the accreditation board and hospitals. The previous studies on NABH accreditation have concentrated from the point of view of healthcare staff or the hospital management. This research focuses on the impact of NABH patient centric standards and safety standard on the quality of hospital services.

4. Objectives of the Research Study

The objectives are listed below:

- To identify the factors affecting the service quality of hospitals.
- To identify NABH standards and its importance.
- To analyze the impact of NABH standards on service quality of accredited hospitals in Bengaluru.

Hypothesis Formulation

H₀: There is no significant level of impact of NABH Accreditation on service quality of hospitals in Bengaluru.

H_a: There is significant level of impact of NABH Accreditation on service quality of hospitals in Bengaluru.

5. Research Methodology

Empirical research using Purposive sampling is conducted with quantitative data collected through questionnaires from patients. The scope of the study was limited to the NABH accredited private hospitals of Bengaluru. Total 390 questionnaires were distributed but 325 responses were received of which 300 were taken into consideration. To know the impact of the NABH standards on service quality of hospitals out of ten NABH standards six standards focusing on patients were identified as independent variables and five dimensions of SERVQUAL method as dependent variable. The data collected is analysed through statistical tool. Descriptive statistics was used to know the features of the data. Regression analysis was conducted to examine the impact of NABH standards on service quality. Correlation was done in order to examine the relation and extent of influence of independent variable on dependent variable with confidence level of 95%.

6. Limitations

The limitations of the research study were listed below:

- The present research study was limited to the In-patients.
- The data were collected from patients of NABH accredited Private hospitals.
- The study is limited to NABH accredited hospitals of Bengaluru
- The study also faces time constraint

7. Results and Discussion

The analysis and interpretations are summarized in the form of results and discussion by implementing the statistical tools like Frequency Distribution, Multi Regression Analysis, ANOVA test and t-test.

Percentage of occurrence related opinion of the patients is presented through Frequency distribution regarding the significant level of impact of NABH Accreditation on service

quality of hospitals in Bengaluru. Multiple Regression Analysis describes the relationship between dependent and independent variables and level of impact.

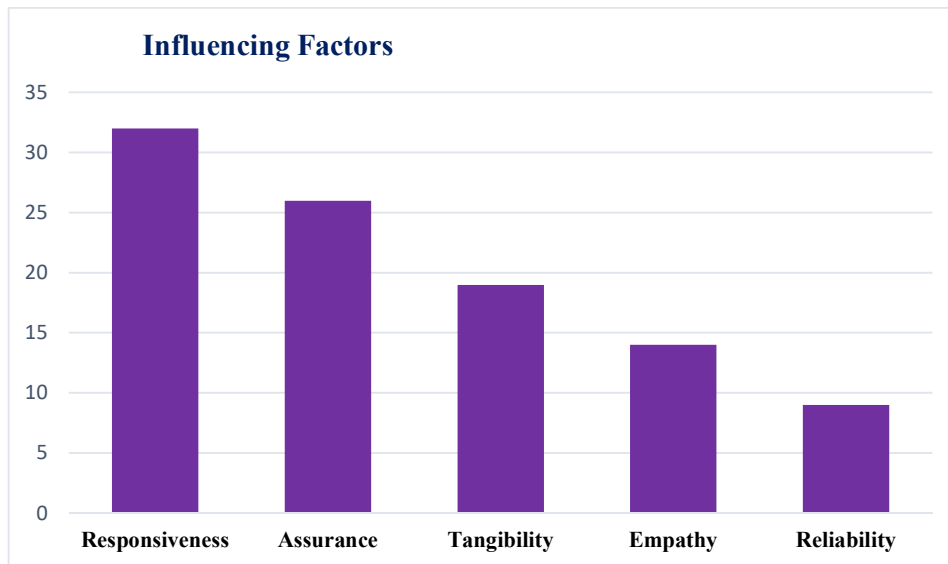
7.1 Analysis Regarding the factors affecting the Service Quality of hospitals

The influencing factors of maintaining services quality in hospitals are given bellow:

Sl. No.	Factors affecting the Service Quality of hospitals	Percentage of Occurrence
1	Responsiveness	32
2	Assurance	26
3	Tangibility	19
4	Empathy	14
5	Reliability	9

[Table 1 shows the factors affecting the Service Quality of hospitals]

The responsiveness is considered as the first preference (32%) that ensures immediate impact on service quality, 26% assurance, 19% tangibility, 14% empathy and 9% reliability.



[Graph-1 shows the factors affecting the Service Quality of hospitals]

Assurance builds the trust among the patient and the relatives to maintain long term relationship. Tangibility is indicated the next level of preferences for better service quality. Empathy and reliability are the important factors that influence service quality.

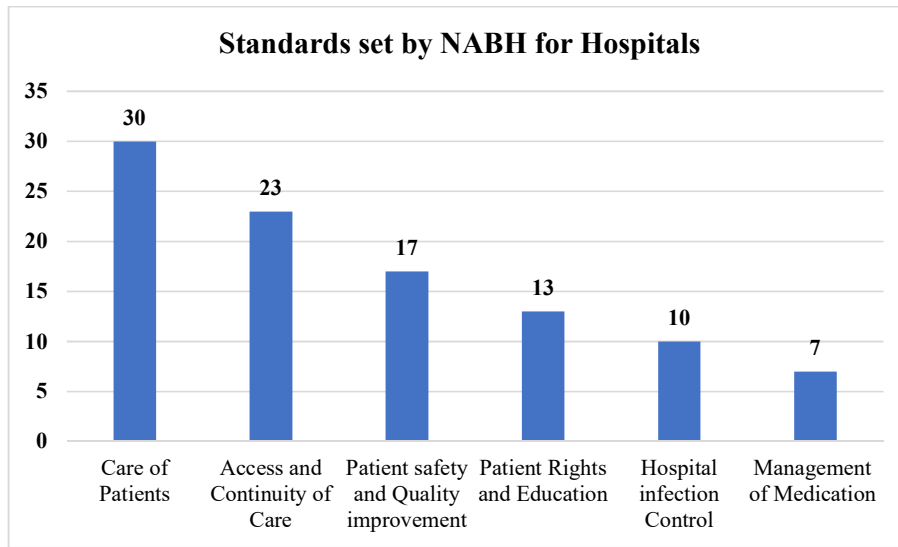
7.2 Analysis Regarding the standards set by NABH for hospitals.

Various activities related to the standards set by NABH for hospitals were identified by the opinion and responses of patients through questionnaire.

Sl. No.	Standards set by NABH for Hospitals	Percentage of Occurrence
1	Care of Patients	30
2	Access and Continuity of Care	23
3	Patient safety and Quality improvement	17
4	Patient Rights and Education	13
5	Hospital infection Control	10
6	Management of Medication	7

[Table 2 shows the standards set by NABH for Hospitals]

As per the respondent's opinion, Care of Patients is considered as the most preferable standards (30%) set by NABH for Hospitals. In the next level, the Access and Continuity of Care gives the priority for service standards in hospital. Hospitals seeking NABH accreditation need to comply with the standards set by NABH an autonomous body responsible for accreditation of hospitals and healthcare providers and undergo a rigorous assessment process. It ensures the quality, safety, infection control and efficiency of healthcare services provided by accredited hospitals.



[Graph-2 shows the standards set by NABH for Hospitals]

Patient safety is the next preference as service standards for hospitals. Patient Rights and Education, Hospital Infection Control, and Management of Medication are the important aspects of the standards set by NABH for Hospitals.

7.3 Analysis Regarding the impact of NABH standards on service quality of hospitals in Bengaluru.

Patient safety and quality services are the fundamental aspect of healthcare services emphasized by NABH. Accredited hospitals are required to implement robust systems for identifying and mitigating potential risks, reducing the occurrence of adverse events, and ensuring patient safety at all levels. Accreditation standards focus on clinical excellence, evidence-based practices, and positive patient outcomes. Hospitals are encouraged to adopt best practices in medical care, leading to improved clinical outcomes and patient satisfaction.

NABH standards promote the implementation of efficient and streamlined processes within healthcare organizations. Accredited hospitals are expected to have well-defined protocols and procedures, reducing errors, delays, and inefficiencies in service delivery. The impact of NABH standards on service quality of hospitals in Bengaluru is analysed by implementing the multiple regression analysis with t-test and ANOVA.

DepVar: SERVQUAL Dimensions, N: 300, Multiple R: 0.461, Squared multiple R: 0.325, Adjusted squared multiple R: 0.406, Standard error of estimate: 0.736

Summary of Multiple Regression Analysis					
NABH Standards	Coeff	Std Error	Std Coeff	t	Sig.

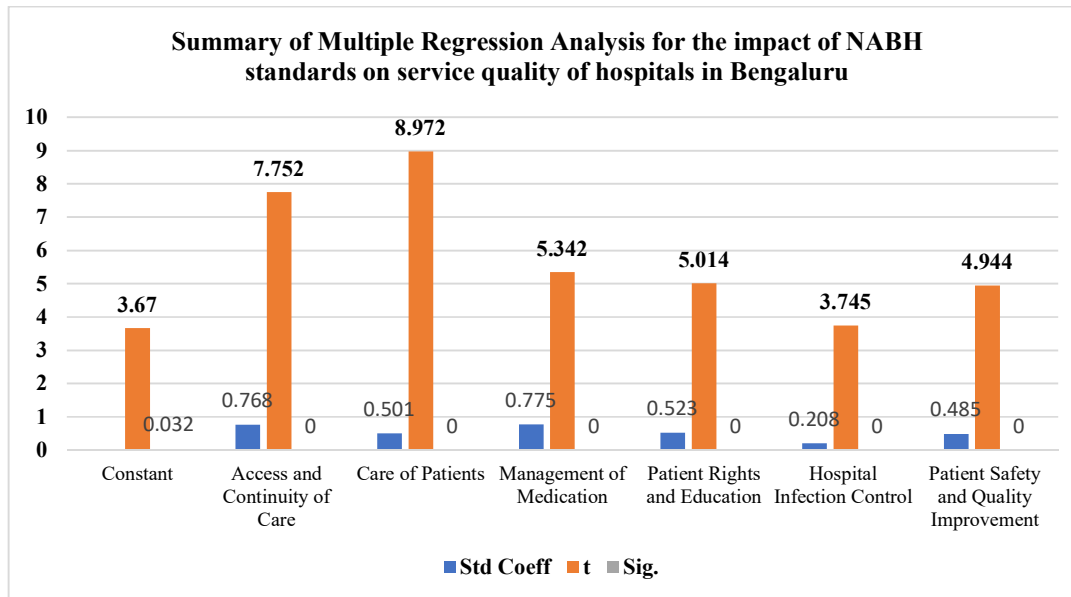
Constant	0.748	0.938		3.67	0.032
Access and Continuity of Care	0.485	0.033	0.768	7.752	0.000
Care of Patients	0.235	0.037	0.501	8.972	0.000
Management of Medication	0.763	0.074	0.775	5.342	0.000
Patient Rights and Education	0.437	0.062	0.523	5.014	0.000
Hospital Infection Control	0.195	0.052	0.208	3.745	0.000
Patient Safety and Quality Improvement	0.365	0.061	0.485	4.944	0.000
Significant at 0.05 level					

[Table 3 shows the impact of NABH standards on service quality of hospitals in Bengaluru]

ANOVA					
Source	Sum-of-Squares	df	Mean-Square	F-ratio	Sig.
Regression	183.479	8	22.935	11.908	0.000
Residual	560.521	291	1.926		
Significant at 0.05 level					

[Table 4 shows the ANOVA Test report including F-ratio and significance p value]

The calculated p-value is 0.000 which is less than 0.05 at the level of significance that indicates the rejection of Null Hypothesis. The individual t-test report shows the value of Access and Continuity of Care (7.752), Care of Patients (8.972), Management of Medication (5.342), Patient Rights and Education (5.014), Hospital Infection control (3.745), and Patient Safety and Quality Improvement (4.944), and the t-test results indicate the impact of independent variable on individual dependent various which are positive.



[Graph-3 shows the impact of NABH standards on service quality of hospitals in Bengaluru]

Hypothesis Testing

The p value is less than 0.05 at 5% level of significance in case of t-test as well as ANOVA test. So, the null hypothesis is rejected. It indicates that there is a significant level of impact of NABH Accreditation on service quality of hospitals in Bengaluru.

8. Major Findings

Findings are the principal outcomes of the data analysis with the consideration of research objectives and the connectivity to social issues.

(a) Responsiveness is considered as the first preference by patients that ensures immediate impact on service quality. It was specified that the assurance build the trust among the patient and the relatives to maintain long term relationship [14]. Tangibility is indicated the next level of preferences for better service quality. Empathy and reliability are the important factors that influence service quality. Patients agreed consistently that responsiveness in most required aspects in health care sector. Responding to their enquiries make them more clear about treatment.

(b) Care of Patients is considered as the most preferable standards (30%) set by NABH for Hospitals. In the next level, the Access and Continuity of Care gives the priority for service standards in hospital. Patient safety is the next preference as service standards for hospitals [15]. Patient Rights and Education, Hospital Infection Control, and Management of Medication are the important aspects of the standards set by NABH for Hospitals.

c) The calculated p-value is 0.000 which is less than 0.05 at 5% level of significance indicates the rejection of Null Hypothesis. There is a significant level of impact of NABH Accreditation on service quality of hospitals in Bengaluru.

9. Conclusion

Customer retention in service industry can happen only through providing best service due to its features. At the cost of life, no patient wants to compromise with the quality care provided. To ensure the best service quality NABH set standards for hospitals to comply with. NABH accreditation is a transformative tool for enhancing service quality in hospitals. Inculcating the standards of NABH contributes to the overall improvement of hospital services and ensures safe, efficient and patient centred healthcare delivery. The impact of NABH accreditation beyond individual hospitals extends to whole healthcare environment. The standards of NABH align domestic healthcare practices with international standards, thereby enhancing the global competitiveness of Indian hospitals. NABH accreditation serves as a benchmark for policy-making, influencing government initiatives aimed at improving healthcare delivery. Despite the challenges in implementation, the long-term benefits for hospitals, patients, and the healthcare system as a whole are immense. As more healthcare institutions embrace NABH accreditation, the vision of universal access to high-quality healthcare in India becomes increasingly attainable.

10. Suggestions

For monitoring the consistent best healthcare services at hospitals both SERVQUAL Dimensions and NABH Accreditation provide insights. But the assurance of service quality depends on so many other factors like professional experiences, experts through practices in real time situations, Research & Development, upgradation of latest technology.

Public awareness is one of the vital aspects of ensuring and verifying service quality in hospitals. The comparative analysis among the various hospital services and prices facilitates the better service with minimum costs.

Government can play the vital role of regular inspections and renewal of registration based on the quality services assurance in hospitals. Priority based health care services need to be implemented for the patient from various remote areas of the society.

It is suggested to all hospitals to go for accreditation or certification according to the scope of hospital and eligibility to provide world class healthcare services and strive towards healthy and betterment of society.

11. Future Scope of the Study

NABH accreditation is recognized globally as a mark of quality in healthcare. Hospitals that meet NABH standards are more likely to attract international patients and collaborations, contributing to the global recognition of the healthcare institution. The study has limitations of time and scope restricted to Bengaluru, patients and only six chapters of NABH standards focusing on patients were taken for the research. In future, researchers can do analysis with all ten standards and other method of measuring service quality extending their geographical area of study and service providers.

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