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ANALYZING THE FACTORS INFLUENCING QUALITY MANAGEMENT PRACTICES IN INDIAN MULTI-SPECIALTY HOSPITAL

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ABSTRACT

QM practices in health care delivery are of significant importance towards quality service delivery in multi-specialty hospitals. This paper explores the factors that would influence QM practice within Indian multi-specialty hospitals, with special focus put on network hospitals within the Punjab. The critical determinants of quality performance should be identified as part of this effort to study the relationship linking leadership, organizational culture, employee involvement, and continuous process improvement.Using data gathered from 1,012 top and middle-level executives, this study would enlighten management practices being aligned with quality objectives to excellence in healthcare delivery.A descriptive cross-sectional research design was adopted. The data collections were through surveys and interviews, while factor analysis, particularly principal component analysis through varimax rotation, was implemented to reduce the 60 variables to ten significant factors. These factors, which included top management commitment, customer focus, and employee training, had high reliability and explained 92.051% of total variance. The results underlined the role of leadership and organizational alignment in fostering a culture of quality and continuous improvement in hospitals. Besides, the study revealed gaps in process management and employee encouragement, which indicated areas to be strategically focused on.These results offer valuable learning opportunities for healthcare administrators who are interested in developing or enhancing QM activities in their facilities. A response to some of these issues-the elements of management commitment and knowledge-sharing-would lead hospitals toward developing robust quality infrastructures that would best answer operational imperatives. The possibility for QM in revolutionizing healthcare delivery is what has been illustrated here, but more significant remains the fact that true achievement of superior patient outcomes relies on the continuous thrust on leadership, training, and employees.

Keywords: QM Practices, Quality Management, Indian Hospitals, Multi-Specialty Hospitals, Healthcare Performance, Factor Analysis, Punjab, Leadership, Continuous Improvement, Organizational Culture.

I. INTRODUCTION

Quality Management (QM) has become the foundation for organizational success, especially in healthcare where quality is the difference between the outcome and customer satisfaction. QM practices in multi-specialty hospitals address the intricate interplay of patient care, operational efficiency, and regulatory compliance. This requires a new kind of approach due to resource paucity, cultural as well as linguistic diversities and changeable requirements of the patient population at large in Indian states, specifically Punjab. Thus, the present paper has discussed those factors influencing the QM practices of the multi-specialty hospitals of India in the context of the significance of strategic management to augment healthcare services.

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The Indian healthcare sector is experiencing very rapid change with technological innovation, increasing demand for high-quality care, and increasing competitiveness among providers. Multi-specialty hospitals, providing a spectrum of medical care, will need to employ all-round quality management practices to ensure competitiveness. QM, therefore, provides a structure that integrates all aspects of the organizational operations with a culture for continuous improvement. But success with QM is contingent on leadership commitment, employee involvement, process efficiency, and customer focus. Understanding the factors is crucial for hospitals in their quest to deliver services with excellence.

Although several benefits of QM are reported, the practice still exists in Indian healthcare institutes on an irregular basis. A number of common factors underlying this poor implementation include training deficits, resistance to change, and inadequate support from the management. This paper fills the gap between theory and practice in QM implementation by trying to highlight some of the most vital factors that determine the actual drivers of QM in an Indian healthcare setup.

The present research focuses on network hospitals in Punjab, giving a unique perspective on factors that shape QM practices in a regional context. Data collected from top and middle-level executives will be analyzed in detail to show how hospitals can make QM strategies fit their needs. The findings will be helpful to healthcare administrators to design effective quality management systems that, in turn, will contribute to better patient outcomes and organizational success.

II. REVIEW OF LITERATURE

Mosadeghrad, A. M. (2014). The primary objective of this research was to ascertain the elements that affect healthcare quality within the Iranian environment. In-depth exploratory individual and focus group interviews were done with 222 healthcare stakeholders, including providers, managers, policymakers, and payers, to discover variables influencing the quality of healthcare services in Iranian healthcare organisations. Quality in healthcare results from collaboration between the patient and the healthcare professional within a conducive atmosphere. The quality of healthcare services is influenced by personal aspects of both the practitioner and the patient, as well as elements related to the healthcare organisation, system, and the wider environment. Healthcare quality may be enhanced by supporting visionary leadership, strategic planning, education and training, resource availability, efficient resource management, employee and process oversight, and collaboration among providers. This article enhances healthcare theory and practice by establishing a conceptual framework that offers policy-makers and managers a pragmatic comprehension of the elements influencing healthcare service quality.

Ray SS, Tripathi S, Ota R. (2018). Healthcare service providers have historically relied mostly on human resources performing their roles effectively to protect patients from unintentional adverse consequences. "Extensive study over many years has shown that most accidents are caused by competent but dubious people operating inside ineffective systems." Healthcare associations are now acquiring systems from various organisations and using frameworks to manage and boost the effectiveness of healthcare services. India has mostly succeeded in integrating Quality Management technologies inside its healthcare industry. This has enabled India to achieve a competitive edge over other nations by offering great services at a cheap price while continuously enhancing service quality. Of all the aspects of Service Quality in Healthcare, Patient Safety is the most crucial. India

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has advanced in establishing a standardised healthcare service by implementing several patient safety standards set by regulators, buyers, and certifying bodies. Despite adhering to several rules, significant difficulties with patient safety persist in India. This article addresses a limited number of situations with fire-related difficulties. The cases referenced in this study are hospitals renowned among patients that have, regrettably, resulted in a significant number of fatalities due to their mistakes. The authors used the Cause-and-Effect Quality Management Model to analyse the underlying causes of mishaps and propose many quality improvements for multispecialty hospitals.

Puri and colleagues (2019). This article aims to address the introduction of Total Quality Management (TQM) in the hospital sector and to examine the correlation between TQM practices and the organisational performance of hospitals. This study is predicated on a literature assessment of Quality Management and many essential success characteristics, including leadership, communication, staff engagement, customer orientation, organisational culture, strategic planning, and patient loyalty. This essay attempts to demonstrate a favourable correlation between a second-order concept of Total Quality Management and its impact on the organisational performance of hospitals in Punjab. The study is structured with the belief that it may be advantageous for scholars and managers to explore the correlation between Total Quality Management techniques and hospital performance. While it is often believed that NABH-accredited hospitals prioritise quality, non-NABH hospitals may nevertheless improve organisational performance by concentrating on essential areas and enhancing their quality. This article uses structural equation modelling to elucidate the relationship between quality practices and performance. This study uniquely identifies the important success elements influencing Total Quality Management (TQM) and outlines how hospitals may enhance their quality and overall organisational performance, including both subjective and objective metrics, by concentrating on these aspects. The essay invites managers and practitioners to think on Quality Management within the hospital and healthcare industry. We urge medical practitioners to adhere to the protocols for enhancing essential success elements that influence Total Quality Management, therefore improving their quality management processes to attain superior organisational performance.

Kamalasanan and colleagues (2019). This study seeks to examine and evaluate the elements affecting quality management in Indian healthcare organisations to find the research gap. The literature for the review was sourced from PubMed and Google Scholar with Indian affiliation. The evaluation included healthcare quality management research from January 1998 to December 2018, resulting in 82 papers, which were further refined to 59 after meticulous examination. Numerous research exist on healthcare management quality; nevertheless, the diverse elements of quality management have not been thoroughly examined. A significant research gap was identified in the domains of planning and documentation, employee engagement, policies and procedures, quality and patient safety, quality processes and outcomes, perceived impact on quality enhancement, training and development opportunities, and future strategies for quality management. This study gap indicates a deficiency that must be addressed by more studies concentrating on various quality characteristics.

Jeyarajasekar and Sivakumar, (2021). In recent decades, competition within the healthcare business has intensified due to globalisation, liberalisation, and privatisation. Healthcare service providers must continually assess the requirements of their clients. They must develop marketing techniques that are suitable for their consumer niche. The multispecialty hospitals meticulously adhere to these factors and secure market share via effective quality management techniques. An examination of quality management and standard implementation by multispecialty hospitals, together with their

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effect on patients, is urgently required. Consumers in the Indian healthcare sector possess a high level of awareness about the services offered by hospitals in adjacent cities. Their expectations are increasing at an accelerated pace. This research aims to analyse the quality management procedures in multispecialty hospitals in Tamil Nadu.

Hidayah, N., Arbianingsih, & Ilham (2022). The worldwide movement towards the adoption of Total Quality Management (TQM) seeks to consistently enhance the quality of healthcare services to meet patient expectations and optimise resource utilisation to improve care outcomes. Implementing TQM practices in the healthcare industry may enhance patient safety. Total Quality Management has emerged as a viable approach for enhancing the efficacy and efficiency of healthcare demand in this context. Total Quality Management prioritises people and procedures. The objectives are organisational success and consumer happiness. Rising health care expenditures, dependence on technology, and the need to comply with worldwide norms and licenses constitute significant challenges for contemporary health organisations, compelling hospitals to maintain superior service standards to satisfy patient wants. Total Quality Management enhances hospital efficacy. A multitude of research has been undertaken to examine the impact of implementing TQM principles on an organization's overall effectiveness and performance. A multitude of research have shown substantial and positive correlations. The insufficient execution of comprehensive quality management is a significant concern for hospital executives and staff in general hospitals when enhancing hospital quality. Notwithstanding the existence of a hospital disaster plan and the execution of exercises and simulations, it has been shown that public hospitals remain unprepared and susceptible to man-made disasters. All of these issues may influence the hospital's ability to provide excellent and safe patient care. The purpose of this study was to investigate the impact of integrated quality management of health services on improving hospital quality. The researchers used a literature review as a methodological approach in their investigation. This study used content analysis as the technique for data analysis. This study may assist healthcare organisations in adopting a more effective Total Quality Management strategy. It will incentivise general hospitals to provide superior patient care services.

III. OBJECTIVE OF THE STUDY

The present study has made an attempt to measure the factors influencing QM practices to meet quality performance of hospitals in Punjab.

IV. RESEARCH METHODOLOGY

Research Method:

The study was conducted among network hospitals in Punjab. The study adopted descriptive statistics, factor analysis for its analysis. The current research used a descriptive cross-sectional study design. It deals with analysis of facts, condition, problem, views, and demographic information. In addition to this, the study also employed the survey method, which makes use of a research instrument.

The selected Hospitals are as follows:

1. Capitol Hospital

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2. Baba Buddha Sahib Cardiac Centre
3. Pruthi Hospital
4. Devaji Dispensary.

Data Collection:

Data were collected through a self-administered questionnaire through email, personal interview and for certain cases, schedules were sent through trained enumerators. Thus, the study used multiple methods for data collection.The data were collected from top and middle level executives of network hospitals.

Sampling:

The sampling hospitals were drawn from each cluster by adopting the method of systematic random sampling.A sample of hospitals were chosen for the study using systematic sampling method.Out of 1100 questionnaire 1012 questionnaires were received in complete and usable condition.

Data Analysis:

The framework of analysis involved descriptive statistics, Exploratory Factor Analysis (Principal Component Analysis) using SPSS 17.0.

V. ANALYSIS AND INTERPRETATIONS

Classification of Respondents Profile:

The profile of respondents is very important as it helps to determine the perception of each sampling unit about the research problem. The present study collected demographic variables like designation/role, gender, years of experience, and department/section of respondents.

Table 1: Summary of respondents 'profile

Particulars	Frequency	Percentage
Gender		
Female	321	32
Male	691	68
Yearsof Experience		
Morethan5 years	658	65
Lessthan5years	354	35
Department/service		
Nonclinicalservice	334	33
Clinicalservice	613	61
Marketing	13	1
Quality/HR	38	4
Customerrelations	14	1
Designation		

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ChiefMedicalOfficer	63	6
Managing Director/Executive Director/GeneralManager	41	4
MedicalOfficer	52	5
MedicalSuperindent	43	4
Others (Management representatives,Service manager,Customer Relations Officer)	27	3
Clinical/non-clinicalhead of departments	754	75
Operations Manager/Quality Manager/HR/Marketing Manager	32	3
Total	**1012**	**100**

68 percent of the respondents were male and the remaining 32 percent were female group. Almost 75 percent of the respondents belong to head of departments of clinical and non-clinical departments. 65 percent of the respondents were having more than five years of experience in the current hospital they are associated with. 61 percent of respondents are from clinical department and 33 percent from nonclinical department.

Factor Analysis – Principal Component Analysis:

In the present study, QM practices were grouped into reliable factors by using exploratory factor analysis. The factors extracted were used for further investigation. The principal component analysis with 'varimax' rotation was used to develop the factor analysis. The rotated factor matrix displays how each variable 'loads' or 'belongs' on each factor.

Factors for measuring QM Practices:

For the current study, factor analysis is used to reduce the number of variables that are used to measure the perception of respondents on quality practices. Respondents were asked to give their opinion on five-point Likert scale (1-very low to 5- very high) for 60 variables of 'QM practices'. The items of the principal component method yielded ten factors. Bartlett's test of sphericity.

Table 2: Factor Analysis – KMO and Bartlett Test

Kaiser-Meyer-Olkin (KMO) measure for samplingadequacy		0.871
Bartlett test of Sphericity	**ApproximateChi-square**	17345.57
	Sig.value	0.000*
*Significantatzerolevelofsignificance		

Kaiser-Meyer-Olkin Test for Sampling Adequacy & Bartlett's test of sphericity:

whether you want to see whether your population variables are really uncorrelated, you may apply a test statistic called Bartlett's test of sphericity. The hypothesis that the correlation matrix is the identity matrix is rejected since the significance value of Bartlett's Test is 0.000 for the 60 variables that are being studied. An metric that is used to assess the suitability of factor analysis is the Kaiser-

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Meyer-Olkin (KMO) measure for sample adequacy. The observable correlation coefficients' magnitudes are compared to the partial correlation coefficients' magnitudes. A KMO value might be anything from zero to one. If the value is high (between half a point and one), then factor analysis is the way to go. When the KMO Statistic is little, it means that other factors cannot explain the correlations between the two variables, therefore factor analysis is not the right choice. This study's KMO value is 0.884, which is closer to 1. This result is therefore acceptable and provides more evidence that factor analysis is suitable.

Table 3: Components of Factor Analysis

Factor Label	Statement	Communalities	Factor Loading	Eigen Values	Reliability	% of variance explained	Cumulative % of variance explained	Mean Score
Customer Focus	S7	.944	0.713	10.920	0.908	18.200	38.731	3.67
	S8	.974	0.708					
	S9	.946	0.689					
	S10	.950	0.624					
	S11	.932	0.606					
	S12	.946	0.587					
	S13	.942	0.578					
	S14	.959	0.557					
Top Management Commitment	S1	.959	0.863	12.319	0.928	20.531	20.531	4.11
	S2	.952	0.834					
	S3	.904	0.821					
	S4	.907	0.796					
	S5	.914	0.775					
	S6	.889	0.714					
Continuous Process Improvement	S20	.939	0.743	6.623	0.887	11.038	60.995	3.66
	S21	.987	0.808					
	S22	.922	0.762					
	S23	.924	0.764					
	S24	.959	0.703					
	S25	.952	0.680					
Knowledgeand Training	S15	.987	0.743	6.736	0.915	11.226	49.957	3.92
	S16	.950	0.671					
	S17	.987	0.655					
	S18	.976	0.636					
	S19	.976	0.584					
Process Management	S32	.946	0.707	4.383	0.831	7.305	76.031	3.56
	S33	.950	0.688					
	S34	.932	0.683					
	S35	.946	0.617					
	S34	.942	0.593					
Employee Involvement	S26	.904	0.743					
	S27	.907	0.725					
	S28	.914	0.679					

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	S29	.889	0.654	4.759	0.879	7.731	68.726	3.69
	S30	.944	0.653					
	S31	.974	0.633					
Employee Encouragement	S47	.959	0.766	2.468	0.903	4.113	86 .082	3.59
	S48	.952	0.712					
	S49	.904	0.753					
	S50	.907	0.722					
	S51	.914	0.658					
Qualitysystem and culture	S37	.959	0.767	3.563	0.911	5.938	81.969	4.05
	S48	.987	0.749					
	S49	.950	0.694					
	S50	.987	0.672					
	S51	.976	0.628					
	S42	.976	0.588					
	S43	.939	0.587					
	S44	.987	0.577					
	S45	.922	0.569					
Communication	S56	.950	0.664	1.683	0.896	2.805	92.051	3.77
	S57	.932	0.636					
	S58	.946	0.573					
	S59	.942	0.561					
	S60	.959	0.561					
Teamwork	S52	.889	0.726	1.898	0.874	3.164	89..246	3.79
	S53	.944	0.651					
	S54	.974	0.583					
	S55	.946	0.562					

Varimax rotation:

The most popular technique of rotation, Varimax rotation, was used for this investigation. Finding the variables with very high loadings on a single component allows for interpretation. The variables that have a heavy weight on these components may then be used to interpret them. Factor loadings show the connections between the new factors and the observed variables. The significance of the component is shown by these matrix coefficients. Under each component, we only evaluated variables with factor loadings greater than 0.55 in order to improve data reduction. Lucky for us, every one of the 60 variables meets the criteria for factor loading on the two factors that were extracted: higher than 0.55.

Components of Factor Analysis (Communalities, Eigen values, percentage of variance explained):

The variable is considered statistically independent and cannot be mixed with other variables if its communality figure is low; however, all of the components in this research have high extracted communalities (higher than 0.5), therefore it is allowed. A factor's eigenvalue is the amount of variation it explains in total. On the other hand, you need to use the fewest components possible to

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describe as much variation as possible. Factors with Eigen values larger than one are the only ones that are considered for extraction. Based on the results, there are a total of 10 components that were retrieved from the research. These factors account for 92.051 percent of the total variation. For factor analysis to be suitable, this proportion of variation to be explained is excellent. So, it's clear that the process of collecting 10 components from a total of 60 variables to gauge the executive's view of QM processes is commendable.

Factor Labelling & Mean Score:

Findings from the factor analysis indicate that eleven components, including almost all aspects of hospitals' QM activities, may be used to quantify these practices. Out of the 10 characteristics, the one with the highest mean value is top management commitment (4.11), followed by knowledge and training (3.92), and quality system and culture (3.80). With mean scores of 3.92 and 3.80, respectively, the criteria "knowledge and training" and 'quality system and culture' lag behind respondents in their interest in quality management methods, indicating that senior management is exhibiting interest in these activities. This demonstrates that these characteristics are significantly contributing to the excellent performance in the network hospitals that were chosen. The least effective strategies were process management (mean value: 3.56) and staff motivation (mean value: 3.59).

Construct validity:

A measure's construct validity may be defined as its degree of consistent theoretical basis-based linking to other measures (Bayraktar et al. 2008). There were enough intercorrelations, according to the Kaiser-Meyer Olkin (KMO) metric of sample adequacy, which came out at 0.871, which is more than 0.60. The results of the Barlett's test for sphericity were less than 0.01, with a p-value of 0.000. The sample adequacy metric is much higher than the permitted limit of 0.50. That is why the variables listed under QM Practices adequately reflect the QM concept.

VI. CONCLUSION

There was enough literature and statistical validity and reliability testing to back up all of the items used in the constructs. This demonstrates that the data used in this research is of a very high quality and reliability. After factor reduction, the 60 items were subjected to factor analysis, which yielded 10 components. The study made use of varimax rotation, which revealed the factors' and constructions' individual variables' relationships with one another. Factors are generated using this component matrix with the rotation applied. The factors were formed by the variables that had very high loadings on those factors. Thus, 10 components have been produced by the QM processes. Each network hospital is unique, and these parameters were made to accommodate that. Consequently, these 10 characteristics may be used by the network hospitals to build their quality framework and create hospital quality management in order to provide high-quality service.

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