



Study of Health Care Quality Management Practices Effect on the Performance of the Hospitals

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ABSTRACT

“Quality is doing the right things for the right people at the right time, doing them right first time and every time.”^[1] All hospitals provide the same type of service, but they don't provide the same quality of service. As hospitals in India are not only growing in number but in size, complexity and the types of services provided, there is an ever-growing need for professional management of hospitals. Many MNC, Indian hospitals are getting ISO certification; global healthcare is undergoing the US Joint Commission on Accreditation of Healthcare organizations (JCAHO) certification process, QCI-NABH, NABL, NHSRC-NQAS, LaQshya, MusQan certification and Six Sigma, Lean etc. To achieve service excellence, hospitals must strive for zero defects retaining every customer; which require continuous efforts to improve the quality of the service delivery system.

The healthcare sector is one of the world's biggest and fastest-developing sectors, consuming more than 12 percent of the GDP of most developed countries. Healthcare industry in India comprises hospitals, medical devices/ instruments, equipment, clinical trials, outsourcing, drugs/ telemedicine, medical tourism, health insurance; generating revenue of US 2.8\$ Trillion approximately and most challenging sectors. Indian Healthcare has emerged to be one of the largest service sectors of the country contributing to 2.1 percent GDP and 04 million people being offered jobs in the industry.

Health care Performance (HP) dimension measures of health-care service, such as the level of medical quality, patient length of stay for care in hospital and bed cycle time etc. And Non Health care Performance (NHP) dimension contains measures, such as customer satisfaction, financial benefits and market development and reputation among major customer segments etc. In this study, human resource management practices for the success of quality management; employee involvement, empowerment, recognition, teamwork, Satisfied, motivated, trained, committed hospital employees are needed and evaluated.

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I. INTRODUCTION

The government policies have remarkably changed towards health care sector in which quality has been given an utmost care and concern. Public hospitals mainly focus on fulfilling the demand for public goods or meeting health-care needs. Due to the decline in government revenues and the increasing national health expenditure, governments are beginning to reduce the funding to public hospitals. The majority of low and medium income population uses services provided by public hospitals. In connection to this, there is a need to enhance the quality of healthcare practice services.

The hospital to focus on its quality issues seriously. ‘Top management commitment’ is viewed with top priority, followed by ‘knowledge and training’ and ‘quality system and culture’. Quality health achieved by applying zero errors and maintaining a continuous error prevention program, Training employees, Reducing delay time and providing promptly to patient's needs. The patient is becoming a customer for the healthcare organizations, or more likely a direct strategic partner who participates in decision-making process.

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The changes in the environment, society, and political policies have significant impacts on management in hospitals as well. The quality concepts results up gradation of Service Quality, improvement in healthcare quality and productivity and satisfaction of both internal and external customer. This is important for promotion of health, prevention of disease, management of the sick with prompt diagnosis and treatment as well as by rehabilitative measures simultaneously ensuring protection of community from the disease process in a cost effective manner, hence achieve customer satisfaction and improve organizational performance. Quality management is proven to provide long term benefits in all terms of an organization. In early 1970s, TQM was found to be predominantly applied in manufacturing sector and effectively improved production and reduced operating costs which is equally applicable to service sector^[2].

Public health care system is responsible for spending of 1% of the GDP (effectively about Rs1000 per capita). In contrast approximately 3% of the GDP (an average of Rs.3675 per capita) per annum is spent in the private sector on healthcare. With the demand for healthcare far exceeding supply, India's healthcare industry is expected to grow by around 12% a year for the next five years. The Indian health care sector is expected to touch US\$ 372 bn in 2022, up from US\$ 110 bn in 2016, representing a 22% CAGR growth rate. By 2021-22, India's healthcare infrastructure is expected to touch US\$ 349.1 bn (IBEF, 2022). There is a fourfold increase in the number of inhabitants in Indian cities between 1970 and 2018, from 109 million to 460 mn. India has the second largest urban community in the world. It is expected that the country would add another 416 mn people to its cities by 2050. By then the urban share of population in India is expected to be 50 percent (cited NITI Aayog, 2022).

Internationally, accreditation is the domain of nongovernmental organisations such as the US-based Joint Commission, a prime mover in rolling out accreditation to hospitals worldwide since launching its international wing, Joint Commission International (JCI), in 1999. Major international accreditation organisations are by the Dublin-based ISQua. ISQua examines accrediting organisation, standards and training, and emphasises the need to provide end users with assurance that their scrutiny to hospitals is exacting and reliable (Anderson, 2021). Since 1970 AICTE quality improvement programme in education; in 1992 a need had been felt for the establishment of an accreditation body in the country to establish internationally acceptable mechanism for recognition of conformity assessment results. The recommendations and Cabinet Committee 1996 decided to set up Quality Council of India as a non-profit autonomous society registered under Societies Registration Act XXI of 1860 to establish an accreditation structure. In India, the hospital accreditation programme began in 2005. It is the flagship initiative of Quality Council of India's; National Accreditation Board for Hospitals & Healthcare Providers (NABH) constituent board of Quality Council of India (QCI) to operate accreditation program for healthcare

organisations.. NABH is backed by all partners, including business, consumers, and the government, and has complete operational autonomy. The program was designed to improve healthcare quality and patient safety in both public and private facilities. NABH is an Institutional and Accreditation Council Member of the ISQua. NABH is also a member of the Asian Society for Quality in Healthcare's (ASQua) board of directors.

The Ministry of Health and Family Welfare (MoHFW) India launched the NQAS program in 2013 with the support of the National Health Mission (NHM). MoHFW launched the Labour Room Quality Improvement Initiative (LaQshya) on December 11, 2017. The MusQan quality program was launched in India on September 17, 2021, to improve the quality of care for children in public health facilities.

Hospital administration is a science and the art of application of the principles of public administration. It deals with matters like promotion of health, preventive services and medical care, development of medical education and training. Still adequate research work has to be under taken in this regard, mainly on the administrative and human resources practices of hospitals.(Robert S. Lawrence, 1990) The success of a hospital is generally measured in terms of patient care, efficiency, experience of personnel and community service. Absence of any one of these requirements leads to failure.

NEED OF THE STUDY:

With the scenario of decreasing govt. funding, growing patient expectations, number and increasing competition in the health-care, this research would have the most significant impact to find Health Care Quality Management practices and their effects by the analysis on the hospital performance.

Majority of the studies on hospital industry are focused on service quality and patient satisfaction survey. Only limited numbers of studies are available in measuring relationship between quality management and performances of hospitals.

AIM:

Study of Health care Quality Management practices effect on the performance of the hospitals.

OBJECTIVE:

The **primary objective** of this study is “to explore the extent of quality adoption and management practices effect in public hospitals”, whether quality Dimensions can boost Performance of the Hospitals. The whole performance related with Quality indicators, Tools practice in Clinical service dept & Non clinical maintenance and General administration services etc. would be analysed.

The **secondary objectives** are:

- Top management leadership is positively related to quality policy, training, suppliers of the quality department.
- To measure/ explore the awareness level among the hospital executives on quality practices.

II. DISCUSSION:

QUALITY ACCREDITATION AND MARKET:

India has been a known country with a history of ancient medicine, the Ayurveda. India has public health care sector as well as private health care sector at large. The public healthcare infrastructure in rural areas needs to be improved for better affordability of the people in rural.^[3] Over the past decade, healthcare services have changed in India basically due to emerging technologies available at affordable cost. The doctor to population ratio in India is 1:2148. Most of the people in rural India are below poverty, cannot bear the expenses, and cannot afford to visit the cities for health care.

General quality perceptions include the factors such as quality cooperation, medical expertise, accessibility, timely medical reports for outpatient services, bed capacities, inpatient services, education and training various interpretations have been made by different schools of thoughts. However the meaning of quality in health systems has been interpreted by Ovretveit (1992) as three stakeholder components – client, professional and managerial. The quality perception exist since 2350 BC to 5th AD during Lord Dhanwantary, Atreya, Charak, Susruta, Vriddha Jeewak and Vatsaya but 6th king-Hammurabi (Mesopotamia Babilon) in 1754 who consisted code of 282 health laws for quality work and punishment, Hippocrates theory 460-370BC, modern feild of health care was started by Edwin Chadwick (Britain) 1800-1890, Vital Statistics by Dr. Lemuel Shattuck, Quality of nursing care and mortality, sanitation, hospital planning introduced by Florence Nightingale called lady with the lamp during British Crimean War 1820. Ernest Amory Codman gives the end result concept of mortality, morbidity, complication. In 1910 Abraham Flexner gives the linkage between quality of medical education and quality of patient care, Dr. W.A. Shewhart (USA) gives **PDSA** cycle, Dr. Jeseoph M. Juran and Edward Deming both also known as quality Guru told about quality control, quality improvement, quality planning known as **Jurans Trilogy** also called **TQM**. Dr. Donabedian introduced Structure-Process-Outcome cycle, in 1986 Bill Smith at Motorola introduced about 6-Sigma theory.

As on 31st December 2020, Currently 117 DH, 40 SDH, 72 CHC, 423 PHC, 48 UPHC recognized with NHSRC- NQAS of which 05 in MP, and over 350 hospitals in India are accredited with NABH, of which 09 in Gwalior. The process of accreditation is administered by the Quality Council of India (QCI) with IPHS, NMC, NCISM guidelines, a national healthcare accreditation and quality improvement body that functions at par with global benchmarks with an objective system of empanelment by insurance and other third parties. Accredited hospital may get more funds for offering medical treatment under the recently announced comprehensive health insurance scheme, a member of the government’s NITI Aayog policy think tank said. Since hospitals certified by the National Accreditation Board for Hospitals (NABH) are supposed to provide quality care, NITI

Aayog is considering helping them out financially as such care involves high costs.

India has made significant progress in reducing the number of vector-borne disease fatalities; however, it remains a problem in many regions across the country. In 2020, the country recorded the highest number of malaria cases throughout the Asia Pacific region. Other life-threatening diseases that were prevalent in the country were dengue, typhoid, tuberculosis, and HIV-AIDS. In addition to this, the share of mental health disorders among adults stood at around 14.3 percent. The most observed issues were idiopathic developmental intellectual disorders and anxiety disorders. Despite these India has the highest number of life style disease malnourished people in Asia pacific region along with obesity, thyroid, COPD, osteoporosis, cancer, alzheimers disease, CHD, chronic liver disease. National Health Protection Scheme (NHPS) scheme over 1,000 packages, around 30% is on catastrophic expenditure in case of admission into a hospital for critical disease such as cancer or kidney failure. OPD costs are not covered in any of the packages of the NHPS, described as the world’s largest health protection cover, which means the poor will continue to bear Out of pocket expenditure (OoPE) on OPD consultations and medicines.

Healthcare has become one of India’s largest sectors, both in terms of revenue and employment for quality management practices and performances. Health care market in India stretched since 2016 up to US \$372 billion by 2022, due to more awareness about healthcare, lifestyle ailments, and rising awareness to insurance. India’s largest health care scheme, Ayushman Bharat was started on September 23, 2018.^[4] The Indian healthcare industry is currently a \$65 billion industry and is up-surfing at a rate of 15%. India is an emerging health care market.

The hospital industry in India accounts for 80% of the total healthcare market. The hospital industry is anticipated to touch \$132 billion by 2023 from \$ 61.8 billion in 2017; rising at a compounded annual growth rate of 16% to 17%. The Indian medical tourism market is predicted to raise from its existing size of \$3 billion to \$7 to 8 billion by 2020.^[6] Healthcare sector is a growing sector. The sector can be divided into three groups:

- (a). Healthcare providers
- (b). Suppliers of products and services to the healthcare industry.
- (c). Customers.

In the Economic Survey of 2022, India’s public expenditure on healthcare stood at 2.1% of GDP in 2021-22 against 1.8% in 2020-21 and 1.3% in 2019-20. In FY22, premiums underwritten by health insurance companies grew to Rs. 73,582.13 crore (US\$ 9.21 billion).

The Indian medical tourism market was valued at US\$ 2.89 billion in 2020 and is expected to reach US\$ 13.42 billion by 2026. According to India Tourism Statistics at a Glance 2020 report, close to 697,300 foreign tourists came for medical treatment in India in FY19. India has been ranked

10th in the Medical Tourism Index (MTI) for 2020-21 out of 46 destinations by the Medical Tourism Association. The e-health market size is estimated to reach US\$ 10.6 billion by 2025. As per information Lok Sabha by the Minister of Health & Family Welfare, the doctor population ratio in the country is 1:854, assuming 80% availability of 12.68 lakh registered allopathic doctors and 5.65 lakh AYUSH doctors.

Between April 2000- June 2022, FDI inflow for the drugs and pharmaceuticals sector stood at US\$ 19.90 billion, according to the data released by Department for Promotion of Industry and Internal Trade (DPIIT). In August 2022, Edelweiss General Insurance partnered with the Ministry of Health, Government of India, to help Indians generate their Ayushman Bharat Health Account (ABHA) number.

- The healthcare and pharmaceutical sector in India had M&A activity worth US\$ 4.32 billion in the first half of 2022.
- As of July 2022, the number medical colleges in India stood at 612.
- In July 2022, the Indian Council of Medical Research (ICMR) released standard treatment guidelines for 51 common illnesses across 11 specialties to assist doctors, particularly in rural regions, in diagnosing, treating, or referring patients in time for improved treatment outcomes.
- As of November 18, 2021, 80,136 Ayushman Bharat Health and Wellness Centres (AB-HWCs) are operational in India.
- As of November 18, 2021, 638 e-Hospitals are established across India as part of the central government's 'Digital India' initiative.

A.

Some of the major initiatives taken by the Government of India to promote the Indian healthcare industry are as follows: In the Union Budget 2022-23:

- Rs. 86,200.65 crore (US\$ 11.28 billion) was allocated to the Ministry of Health and Family Welfare (MoHFW).
- Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) was allocated Rs. 10,000 crore (US\$ 1.31 billion)
- Human Resources for Health and Medical Education was allotted Rs. 7,500 crore (US\$ 982.91 million).
- National Health Mission was allotted Rs. 37,000 crore (US\$ 4.84 billion).
- Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) was allotted Rs. 6,412 crore (US\$ 840.32 million).
- The Government of India approved continuation of 'National Health Mission' with a budget of Rs. 37,000 crore (US\$ 4.85 billion).
- Rs. 5,156 crore (US\$ 675.72 million) was allocated to the newly announced PM-ABHIM to strengthen India's health infrastructure and improve the country's primary, secondary and tertiary care services.
- In India, roughly 5.8 million Indians die because of diabetes, cancer, stroke, heart and lung diseases each

year. In other words, out of 4 Indians 1 has risks dying from an NCD before the age of 70.

- About 1.7 million Indian's deaths caused by heart diseases every year, according to the World Health Organisation.
- Health data shows that roughly 16 lakh people suffer from stroke throughout India.
- 2014, the incidence of cancer in India was 70-90 per 100,000 populations. Data shows that cancer prevalence is established to be around 2,500,000 (2.5 million) with over 800,000 new cases and 5,50,000 deaths occurring each year.

With the second-largest population in the world, India is home to over 1.3 billion people. The average life expectancy has seen a consistent increase since the 1920s and was around 69 years in 2019. However, this was still lower than the global average of around 72 years. That same year, the country's death rate was recorded at about 7.3 deaths for every thousand inhabitants.

A CONCEPTUAL FRAMEWORK

I) Four distinguishing functions of management method:

1. Empowering clinicians
2. Adopting a norm that customer preferences
3. Factors for TQM in healthcare
4. Accountability

“TQM”, “Medical Devices”, “Regulatory Compliance”, “Productivity in Service”, “Quality Tools”, “NABL”, “NABH” “NQAS” “LaQshya” “MusQan” and ISO are some criteria used for identification of relevant areas for further research.

TQM is defined as an approach to improving the effectiveness and flexibility of organizations as a whole. According to Alshourah,^[5] overall TQM practices can positively affect hospitals' quality performance. They have focused on various factors and derived that the following parameters affect the hospitals' quality performance.

1. Leadership commitment and backup to quality
2. Quality strategic planning
3. Training and participation
4. Information and data
5. Process management
6. Supplier quality management
7. Customer focus
8. Continuous improvement.

II) TQM practices lead to various yields:

- Better productivity and manufacturing output
- Good quality output
- Satisfactory employee performance
- Innovations
- Satisfied customers
- Competitive benefit
- More market revenue
- Impressive financial output.

India is rated one among top three medical tourism destinations in Asia along with Thailand and Singapore as reported by the Economic Times (2014). According to (Sahay, 2008), it was found that Indian hospitals are best with challenges related to poor customer service and could lose their competitive advantage to other players in the global market who offer a high quality service [6].

The study by (Fotopoulos and Psomas, 2009) identified customer focus, process management, continuous improvement, employee management and involvement, supplier management, leadership, strategic quality planning, information and analysis and knowledge education as a set of TQM practices to form a structural relationship with the organizational performance in ISO 9001:2000 certified Greek companies [7].

Kumar et al (2011) identified- management commitment, teamwork, employee’s empowerment, training, feedback, and effective communication [8].

While the study by (Bayraktar et al., 2008) presented the following critical success factors (CSFs) of TQM: vision, measurement and evaluation, process control and improvement, programme design, quality system improvement, employee involvement, recognition and award, education and training and other stakeholder’s focus [9].

Set of nine TQM practices for their proposed TQM model for service industries. They are: top-management commitment, customers focus, continuous improvement and innovation, supplier management, benchmarking, quality information and performance [10].

Dahkgard et al., 1998 went on to identify ten TQM practices: teamwork, quality assurance, zero defects, and communication [11]. Brah et al., (2002) in their study, gave 11 constructs of TQM viz., service design, quality improvement rewards, cleanliness and organization [12].

Cartner et al., 2010 have demonstrated the quality management model based on two aspects viz., quality context and quality practices. Quality context and quality practices found to exhibit a strong effect in terms of overall quality management [13]. Zandin (2001) mentions that TQM helps improve the quality of services and goods through a collaborative approach and standardized performance [14]. Whyte and Witcher (1992) explain TQM as an approach with a holistic perspective on Total, Quality and Management [15].

Wilson and Collier (2000) performed a study in hospitals of America and a found a positive relationship between TQM practices and Organizational Performance [16].

III) Measuring Service Quality:

Three characteristics of healthcare services contribute to the difficulty of measuring it, these are:

1. Service intangibility
2. Performance heterogeneity
3. Customer-producer inseparability

The patient/customer actions, moods, and cooperativeness will affect performance and quality. With these health care services becomes more difficult for

customers/patients to evaluate. Evaluations made are not only on the output but also on the delivery process itself.

IV) SERVQUAL Model:

Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction, and skilful execution. Quality Assurance is a set of activities that are planned for, carried out systematically or in an orderly manner and continuously to improve quality care [25]. It involves setting of standards, regular monitoring and improvement. Quality Assurance encourages health workers to examine the services they provide, assess their own work and come out with what they can do with the limited resources to improve the quality of care. In essence, quality assurance is that set of activities that are carried out to set standards and to monitor and improve performance so that the care provided is as effective and as safe as possible

To measure satisfaction on both ends – employee satisfaction and customer satisfaction with hospitals, the internationally used market research technique called SERVQUAL is required to be used in order to measure patients’ expectations before admission, record their perceptions after discharge from the hospitals and then to close the gap between them and to know the improvements.. This technique compares expectations with perceptions of services received across five broad dimensions of service quality, tangibility, reliability, responsiveness, assurance and empathy [17-18]. Its survey results analysis scope to methods to measure inefficiency in hospitals to facilitate more effective control of hospital costs.

TECHNICAL COMPETENCE

Technical competence refers to the skills, capability, and actual performance of health providers, managers, and support staff. For example, to provide technically competent service, a health worker must have the skills and knowledge (capability) to carry out specific tasks and to do so consistently and accurately (actual performance) [28]. Technical competence relates to how well providers execute practice guidelines and standards in terms of dependability, accuracy, reliability, and consistency. This dimension is relevant for both clinical and non clinical services.

QUALITY MANAGEMENT PRACTICES WITH HOSPITAL CONTEXT:

- (i) It is oriented towards meeting the needs and expectations of the clients.
- (ii) Focus on systems and processes
- (iii) Use data to analyze service delivery
- (iv) Encourage use of teams in problem solving and quality improvement and
- (v) Use effective communication to improve service delivery.

The principle guidelines are divided into 8 thematic area of Kayakalp scheme- 1. Hospital upkeep, 2. Sanitation and Hygiene, 3. Support services, 4. Waste management, 5. Infection control, 6. Hygiene promotion, 7.

Beyond hospital boundary initiative, 8. Eco-friendly facility, under **NQAS hospital 18 Departments-** 1. Accident & Emergency 2. OPD 3. Labour room 4. Maternity ward 5. Paediatric ward 6. Sick Newborn Care Unit 7. Nutritional rehabilitation centre 8. OT 9. Post partum unit 10. ICU 11. IPD 12. Blood bank/centre 13. Laboratory services 14. Radiology & USG 15. Pharmacy 16. Auxilliary services 17. Mortuary 18. General Administration of the hospital with **NABH 10 patient and management centred particulars-** 1. Access, Assessment and Continuity of Care 2. Care of patients 3. Management of medications 4. Patients right and education 5. Hospital infection control 6. Continuous quality improvement 7. Responsibilities of management 8. Facility management and safety 9. Human resource management 10. Information management system. Above all are under the international organisation for standardisation (**ISO clauses-** 1. Product service realisation 2. Hospital/ company profile and business operation 3. Definition & Abbreviation 4. Quality management system 5. Management responsibility 6. Resource management 7. Measurement Analysis Improvement 8. Patient & employee satisfaction ^[19].

ACCESS TO SERVICES

Access means that health care services are unrestricted by geographic, economic, social, cultural, organizational, or linguistic barriers. Geographic access may be measured by modes of transportations, distance, travel time, and other physical barriers that could keep the client from receiving care. For example, family planning service may not be accepted if they are offered in a way that is inconsistent with the local culture. Organizational access refers to the issues such as clinic hours and appointment systems, waiting time, and the mode of service delivery. For example the lack of evening clinics may reduce organizational access for day labourers ^[20].

EFFECTIVENESS

The quality of health services depends on the effectiveness of service delivery norms and clinical guidelines. Assessing the dimension of effectiveness answers the questions, lead to the desired results. For example, more frequent use of cesarean section might be warranted in a population with many high-risk pregnancies, despite the associated risk. To determine this strategy's effectiveness, the procedures potential harm must be compared with its potential net benefits ^[21].

INTERPERSONAL RELATIONS

The interpersonal relations refers to the interaction between providers and clients, managers and health care providers, and the community. It establish relations establish trust and credibility through demonstrations of respect, confidentiality, courtesy, responsiveness, and empathy.

EFFICIENCY

The efficiency affects product and service affordability. Efficient services provide optimal rather than maximum care to the patient and community; they provide the greatest benefit within the resources available. The quality improvements never require additional resources. But by

analyzing efficiency, health program managers may select the most cost-effective intervention.

CONTINUITY

Continuity means that the client receives the health services that he or she needs, without interruption, cessation, or unnecessary repetition of diagnosis or treatment. Continuity is sometimes by keeping accurate medical records so that a new provider knows the patients history. The absence of continuity can compromise effectiveness, decrease efficiency, and reduce the quality of interpersonal relations.

SAFETY

As safety means minimizing the risk of injury, infection, harmful side effects, or other dangers related to service delivery. Safety involves the provider as well as the patient. For example, safety is an important dimension of quality for blood transfusions, aseptic conditions, health center waiting rooms can put clients at risk of infection, a mother may administer to her child ORS containing a dangerously high concentration of salt.

AMENITIES

Amenities refer to the features of health services. Amenities relate to the physical appearance of facilities, personnel, and materials; as well as to comfort, cleanliness, and privacy. Other amenities may include features that make the wait more pleasant such as music, educational or recreational videos, and reading materials. While some amenities – clean, accessible restrooms; and privacy curtains in examination rooms – are considered luxurious.

HEALTH CARE MANAGER

Quality care requires that managers involved in delivering patient care, supervision and financial and logistics management. Health care managers must provide for access, effectiveness, technical competence, and efficiency ^[22].

QUALITY: ESSENTIAL CHARACTERISTICS

Quality Assurance encourages a team approach to problem solving and Quality Improvement. Participatory approaches offer two advantages. First, the technical product is likely to be of higher quality because each team member brings unique perspective and insight to the quality improvement effort. Collaboration facilitates a thorough problem analysis. Second, staff members are more likely to accept and support changes that they helped to develop. Thus, participation in quality improvement builds consensus and resistance to change.

WHO has promoted a Quality Assurance paradigm-international society for quality in healthcare (ISQua) in more than 100 countries. Joint commission on Accreditation of Health Care organizations (JCAHO) developed the 10 step process in 2002 for than 20000 hospitals which consists of planning for Quality Assurance, Developing guidelines & selling standards & communicating, monitoring quality, identifying problems and selecting opportunities for improvement and defining problems operationally. Next steps include choosing a team, analyzing to identify root causes, developing solutions and action plans and also

implementation and calculation of quality improvement efforts. International organisation for standardisation in more than 157 countries made 16000 standards. The ISO 9001:2000 is for education & staff management in Health Care Organisation, ISO 14000 is for Environment management, ISO 9000 is for Quality management, ISO 17799 is for Information security, ISO 8402 is for Product & Service ability to satisfy implied need.

WHO'S QUALITY ASSURANCE PROCESS: STEPS

1. Planning for quality assurance
2. Developing guidelines and setting standards
3. Communicating standards and specifications
4. Monitoring quality
5. Identifying problems and selecting opportunities for improvement
6. Defining the problem operationally
7. Choosing a team
8. Analyzing and studying the problem to identify its root causes
9. Developing solutions and actions for improvement
10. Implementing and evaluating quality improvement efforts.

I) Service Quality:

The following factors have been suggested by Parasuraman (1988) with regard to quality of services:

1. Tangibility which include appearance of persons, physical & equipment facility
2. Reliability which indicates the ability to perform the dependent patient.
3. Responsiveness which contains willingness to serve and providing prompt services.
4. Assurance which indicates courtesy, knowledge and ability to inspire trust and confidence
5. Empathy that points out caring and individual attention to patients

II) Problem solving & Change Management: A Quality Management Approach:

The 5 main approaches- Routine (SOP), Scientific, Decisional, Creative and Quantitative approach should be implanted into the hospital by Analytical, Logical, Rational, Absolute, Collaborative, Issue based, Failure mode & effect analysis (FMEA), SCAMPER (substitute, combine, adapt, modify, put to another use, eliminate, reverse), Hybrid approach, Root cause analysis based action plane (RCA).

Key performance indicator, Quality indicator, Outcome indicator related with productivity, efficiency, clinical care and safety has become a well known term in the health sciences. These are for evidence based practice & health promotion, monitoring and evaluation representing the extent to which set objectives are accomplished.

Hospital tools information is an integral part of administration, the basic tool of measurements are:- Rate, ratio, proportion, central tendency, standard error, correlation & regression, tabulation, checklist, which are used in hospital

statistics calculation by- Stata, R, GraphPad Prism, SAS, IBM SPSS, MATLAB, JMP, Minitab, Statistica, Excel.

Check-sheet- This is the process of collecting data, determines measurements and aims to present information in an efficient, graphical format.

Why analysis sheet to identify gap/ error/ mistakes.

Histogram- Its a graphical summary of the frequency distribution of the data. Its used to display both attribute and variable data effectively.

Pareto Chart and Analysis- Pareto, **Scatter**, **Gantt** chart are the technique which pays attention to the most important area. The Pareto concept is the 80:20 rule which states that 80% of failures come from 20% of all faults. The failure data are further analysed..

Cause and Effect Diagrams- This approach is used in problem solving and increase process improvement efforts. Its also known as Fishbone or Ishikawa diagram for RCA.

Process Mapping Chart for various department facility easy accesses.

PDCA chart for re-assess and mapping.

Control Chart to check certain unwanted activities or data redundancy and discrepancy.

Control Impact Matrix & Action Item Tracker.

III. METHODOLOGY

The current research uses a descriptive design. It deals with analysis of facts, condition, problem, views, and demographic information. Sampling frame of the study will constitute the list of hospitals accredited and non- accredited in the region to understand the impact of quality practices in the hospitals and its effect.

In order to assess the respondent perception construct in Questionnaires should be designed in complete and usable condition. The data should be collected from top, middle and low level executives of network hospitals. The study adopted descriptive statistics, factor analysis for its analysis. The research should use descriptive cross-sectional study design; deals with analysis of facts, condition, problem, views, and demographic information. In addition to this, the study also employed the survey method, using of a research instrument. This study used electronic mail (e-mail) survey method, mailed questionnaire method and interview method as the means of data collection which is commonly used in similar kind of research (Fotopoulos and Psomas, 2009, Cartner et al., 2010, Zu, 2010, Salahedin, 2009) . The framework of analysis involved should be descriptive statistics, Exploratory Factor Analysis (Principal Component Analysis).

SAMPLING UNIT

Respondents should be chosen by systemic random sampling approach, selected at regular intervals. It should include the employee knowledge (administrative staff, physician, nurse and other support staff), understanding and behaviour towards the policy of maintaining quality management considered for framing the construct “Quality Awareness”. Ten percent of the employees should be taken from each stratum. The constructs should be used ^[48-49] based

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on the above literature review, the study should examine the quantitative data reported to prepare reports as well as awareness of employees on quality management as a performance indicator. Krejcie and Morgan (1970) in their article “Determining Sample Size for Research Activities” gave a table for determining the sample size for various populations’ e.g. categorical type of data of sample size. Thus the sample taken in study validates with the Krejcie and Morgan’s table.

STUDY DESIGN:

Open retrospective and observational comparative study of qualitative data for services performed on the basis of various quality tools/ indicators mentioned in the checklist of NABH, NABL, NQAS, ISO certifications should be taken to judge the effect of performance after quality implications. Only those large hospitals at district level having equivalent 100- 500 bed, should be selected for comparison having either NABH or NQAS accreditation certificates of the same field of practices. The quality accredited hospitals should be chosen for the study using systematic random sampling method. The data will be collected from top and middle level executives of the hospitals. The framework of the study adopted should be descriptive in nature and the data collected should be tested in an analytical manner.

DATA COLLECTION

I) Primary Data: Opinions of the administration staff, physicians, nurses and supporting workforce concerning different quality dimensions and Hospital execution should be collected through a tested and adopted structured questionnaire for the primary data. The data obtained should be continuous in nature.

A tested structured questionnaire should be used to collect the responses of the hospital staff regarding each of the TQM practices using a five point likert scale ranging from Strongly Agree to Strongly Disagree i.e. very high to very low.

II) Secondary Data: The data will be collected online published journals, thesis, books and internet websites from HCO/ hospital/ subject/ Govt. dept./ other agencies to examine the research questionnaire/ parameter tools showing the association of Quality practices with the performance of the healthcare organizations.

III) Variables:

There should be explanatory and response variables (dependent variable), and independent variables (i.e. controlled in the study).

DATA ANALYSIS/ TOOLS

The data analyzed should be explored by descriptive statistics, which will describe the nature of the data. In connection to the research content suitable statistical tools will be used e.g. reliability analysis (Cronbach alpha), validity test (face validity, content validity and criterion validity), Exploratory Factor Analysis, and ANOVA, regression, t-test, mean values, SD, variance of the statements related to the quality awareness perceived by the respondents. Respondents will be asked to give their opinion on five point

likert scale (1-very low to 5- very high) for variables of “Quality awareness”. All the primary data measured in continuous scale assuming the values on the scale are equidistant. To test the influence of Quality dimensions including influence of leadership on Performance of hospitals, Simple Linear Regression may be used.

I) Procedure planned for Assessment and Data collection:

Process should be used to observe and record various set of activities/ tools/ data/ reports under the guidelines through formal or informal communication so that the information gathered can be analyzed and compared with controlled/ non accredited hospitals data with various statistical tools.

II) Assessment Tools and techniques used in methodology:

Various total quality tools/ indicators and statistical tools mentioned in the checklist of NABH, NABL, NQAS, LaQshya, MusQan, ISO certifications.

IV. CONCLUSION

From the present study, simply read out the quality manuals, quality basics, its cause and effects for better understanding. This will help in framing job specific quality awareness, departmental quality objectives and frequent training need assessment and quality inspection with respect to different areas of hospital management. Thus, the present study will give an idea on the level of quality awareness through exploratory factor analysis of the employees as per the departments, designation, having experience can be used to provide training on quality practices at uniform intervals and other related policy making decisions implementation, discussion towards enhancing the quality service knowledge.

The study can indirectly be used to identify service gaps and reduce waiting time at all service points of hospitals like patient wards, labs and pharmacy, cash counter etc.

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