

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.

Keywords: *Quality management practices, Hospital performance, TQM, Healthcare, Regulatory Compliance, Medical Devices, Service Productivity, NABH, NOAS, ISO.*

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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 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. There is a need to enhance the quality of healthcare practice services. 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 or more likely a direct strategic partner who participates in decision-making process.

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, a prime mover in accreditation to hospitals worldwide, in 1999 Joint Commission International (JCI).Dublin-based 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 internationally acceptable. 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. 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 public administration and human resource. It deals with matters like promotion of health, preventive services and medical care, development of medical education and training. (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 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:

Review On Quality Accreditation And Market:

Over the past decade, healthcare services have changed in India basically due to emerging technologies available at affordable cost. General quality perceptions include the factors such as quality co operation,

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, Charak, Susruta, 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. In 2020, the country recorded the highest number of malaria cases throughout the Asia Pacific region along with life-threatening diseases dengue, typhoid, tuberculosis, and HIV-AIDS. In addition to this mental health disorders e.g. developmental intellectual disorders and anxiety disorders among adults stood at around 14.3 percent. 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.^[3] The Indian healthcare industry is currently a \$65 billion industry and is up-surging 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. 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).

India is in top three medical tourism destinations in Asia along with Thailand and Singapore as reported by the Economic Times (2014). 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. 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.

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 are 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 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.

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).
- 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).

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

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 is defined as an approach to improving the effectiveness and flexibility of organizations as a whole. According to Alshourah,^[4] overall TQM practices can positively affect hospitals' quality performance. They have focused on 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.

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.

Fotopoulos and Psomas, 2009 identified TQM practices customer focus, process management, continuous improvement, employee management and involvement, supplier management, leadership, strategic quality planning, information and analysis and knowledge education with the organizational performance in ISO 9001:2000 certified Greek companies ^[5].

Kumar et al (2011) identified- top management commitment, teamwork, employee's empowerment, feedback ^[6].

Bayraktar et al., 2008 presented critical success factors (CSFs) of TQM: vision, measurement and evaluation, programme design, quality system improvement, employee involvement, recognition and award, education and training, other stakeholder's focus ^[7], innovation, supplier management, benchmarking and performance ^[8].

Dahkgard et al., 1998 identify zero defects and effective communication ^[9]. Brah et al., (2002) gave service design, rewards, cleanliness and organization ^[10].

Cartner et al., 2010 have demonstrated the quality management model based on two aspects viz., quality context and quality practices found to exhibit a strong effect in terms of overall quality management ^[11]. Zandin (2001) mentions that TQM helps improve quality of services and goods through a collaborative approach and standardized performance ^[12]. Wilson and Collier (2000) performed a study in hospitals of America and found a positive relationship between TQM practices and Organizational Performance ^[13].

Measuring 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 truth and confidence
5. Empathy that points out caring and individual attention to patients.
6. Performance heterogeneity.
7. Customer-producer inseparability

The patient/customer actions, moods, and cooperativeness will affect performance and quality. Evaluations made are not only on the output but also on the delivery process itself. 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 (five broad dimensions of service quality, tangibility, reliability, responsiveness, assurance and empathy) after discharge from the hospitals and then to close the gap between them and to know improvements^[14-15].

Quality Management Practices With Hospital Context:

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.

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.

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, Route 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.

III. Methodology:

In order to assess the respondent perception construct in Questionnaires was designed. The data was collected from top, middle and low level executives. The study adopted descriptive statistics, exploratory factor analysis for its analysis. The research was descriptive cross-sectional study design; deals with analysis of facts, condition, problem, views, and demographic information employed the survey method. Its Open retrospective and observational study of qualitative data for services performed on the basis of various quality tools/ indicators mentioned in the checklist of NABH, NABL, NQAS, ISO was taken to judge the effect of performance after quality implications.

The researcher has visited hospitals across Madhya Pradesh. There are 116 registered government hospitals of Madhya Pradesh which are above 100 bedded. The researcher has surveyed 20 hospitals which were selected by simple random sampling method. The sampling method used was justified and purposive random sampling technique, hospitals using HIS and NHSRC NQAS quality certified were **purposively** selected. Sample acceptable error was 2%. In the present study better distribution of sample is ensured by fixing the sample size above 200

Thus the Sample Size (n) for the present study was:

No. of Hospitals: 20 (public hospitals)

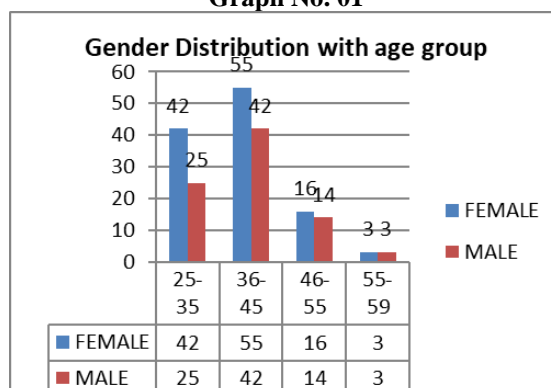
No. of respondents: 204 (from public hospitals) continued out of 380, finally taken only 200 respondents for data analysis.

A. Socio-Demographic Analysis

Age and Gender wise distribution

According to this the total 116 females and 84 male was enrolled in the study in various age criteria e.g. 25-35 year 42 female and 25 male, 36-45 year 55 female and 42 male, 46-55 year 16 female and 14 male, 56-59 year 03 female and 03 male. The highest number of patients was age group of 36-45 year (48.50%) and the second highest (33.50%) was of 25-35 year age group due to various reasons.

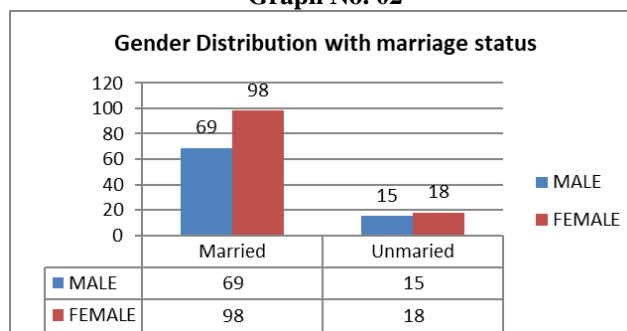
Graph No. 01



b). Marriage wise distribution

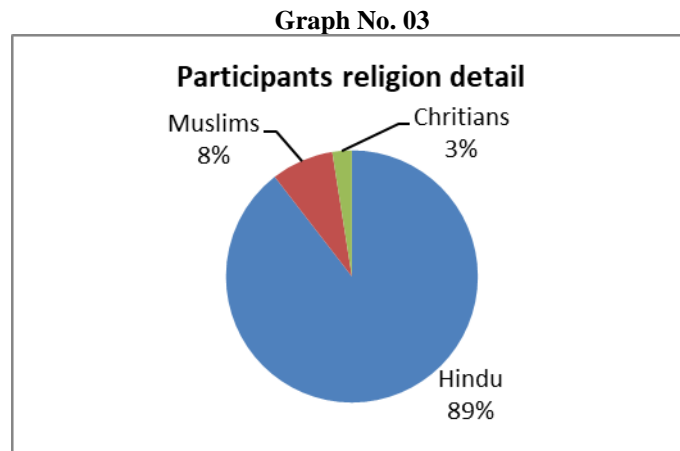
It's a social union between two different gender people called spouses that create kinship. In this study 69 Male were married and 15 were unmarried while 98 Female were married and 18 were unmarried suffering from Insomnia and Stress. The highest (49%) noticed in married female while second highest (34.5%) in married males.

Graph No. 02



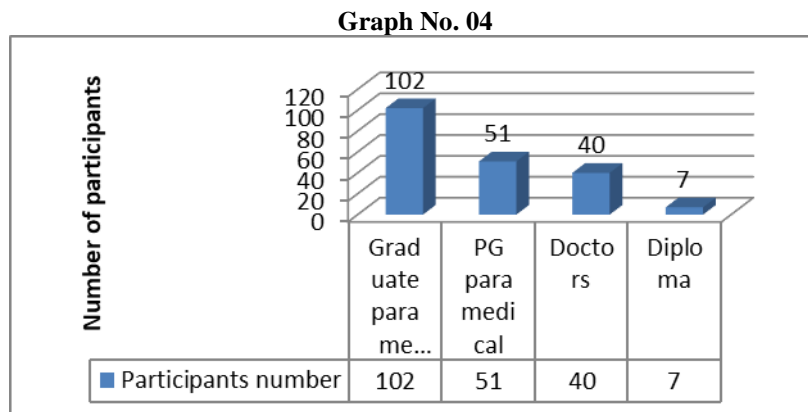
c). Religion

Respondents participants 179 were predominantly Hindus (89.5%), followed by Muslims 16 (8%) and Christian participants 5 (2.5%) as depicted in Figure



d). Education Qualification

It can be seen that 51% of respondents 102 were graduated nursing and paramedical staff. Those who studied up to post graduate 51 were 25.5%, Doctors were 40 (20 %) and Diploma / certificate holder 07 participants were (3.5%).



B. Analysis On Hospital Stay Characteristics:

To verify the Quality management practices on hospital performances based on secondary data provided:

1) Emergency Room Admissions shows that 18% of respondents were admitted to the emergency room were satisfied with hospital services.

2) No. of Surgeries Performed

Prior to admission of respondents in the hospital, number of surgeries performed is about 86% of the patients did not report prior surgery, 10.4% reported one surgery, 3.6% reported two surgeries and only two reported more than two surgeries (0.3%) in the hospital.

3) Outcome after Surgery

A healthy 42.3% of the respondents reported that somewhat satisfied with the hospital experience and 47.9% reported that they were quite a bit satisfied. A great deal of satisfaction was expressed by 9% of respondents while only 0.8% of the respondents reported worse than before as an outcome after surgery.

4) Length of Stay

The number of nights the respondents spent in the hospital. Those who spent one night were 3.6% , 2-4 nights were 56.3%, 5-10 nights were 32.7% and more than 10 nights were 7.4% confirms improved services.

5) No. of Visits

As shown 70.6% of respondents admission for surgery was the first visit to the hospital. Of the remaining 29.4% respondents, 24.8% visited the hospital 2 to 4 times, 2.9% visited 5 to 8 times, 1.4% visited 8 to 10 times and 0.5% visited more than 10 times affirms that services improved after accreditation.

6) Waiting time for a bed after arriving at the hospital.

The waiting time was less than 30 minutes for 94.4% of the patients to secure a bed in the hospital. 4.4% of the patients reported waiting time of 31 to 60 minutes, 0.5% of the patients reported 61 to 120 minutes and 0.8% reported more than 120 minutes.

7) Overall rating of the hospital during the stay

On a scale of 1 (Worst hospital possible) to 10 (Best hospital possible) the overall rating of the hospital during the stay of the respondents was collected on NITI Aayog Ranking. The frequencies from 1 to 7 were merged under worst hospital possible and 8 to 10 merged under best hospital possible. It was found that 66% respondents rated their hospital experience to be best possible experience.

8) Willingness to Return to the Hospital, in case of need

The treated healthy 96.7% of the respondents were willing to return to the hospital if needed.

9) Willingness to Recommend the Hospital to family and friends

Under this one can note that the number of respondents willing to recommend the hospital to family and friends was 98.3% which signifies that the hospitals were able to provide the respondents satisfactory experience.

C. Peceptions Of Employees:

I). Benefits of accreditation

a) Patient's care has been enhanced due to accreditation

Out of 200 respondents, 12% of respondents strongly disagree that Patient's care has been enhanced due to accreditation, which is supported by 19.67% of respondents who are disagree to this, whereas 20.17% of respondents neither agree nor disagree to this. However, 26.33% of respondents agree that Patient's care has been enhanced due to accreditation and remaining 21% of respondents strongly agree to this.

b) Healthcare quality has increased due to accreditation

From the above table and graph it is interpreted that out of 200 respondents, 13% of respondents strongly disagree that Healthcare quality has increased due to accreditation, which is supported by 20.67 % of respondents who are disagree to this, whereas 19.5% of respondents neither agree nor disagree to this. However, 27.67% of respondents agree that Healthcare quality has increased due to accreditation and remaining 19.17% of respondents strongly agree to this.

c) Motivation level has increased after accreditation

There are out of 200 respondents, 15.17% of respondents strongly disagree that Motivation level has increased after accreditation, which is supported by 23.83 % of respondents who are disagree to this, whereas 8.5% of respondents neither agree nor disagree to this. However, 33.33% of respondents agree that Motivation level has increased after accreditation and remaining 19.17% of respondents strongly agree to this.

II). Factors help in Quality Improvement

a). Commitment of senior managers

Out of 200 respondents, 13.67% of respondents strongly disagree by Commitment of senior managers on quality improvement, which is supported by 26.5% of respondents who are disagree to this, whereas 8.333% of respondents neither agree nor disagree to this. However, 29.83% of respondents agree by Commitment of senior managers on quality improvement and remaining 21.67% of respondents strongly agree to this.

b). Quality management activities

There are out of 200 respondents, 15% of respondents strongly disagree by Quality management activities on quality improvement, which is supported by 24.33% of respondents who are disagree to this, whereas 12.5% of respondents neither agree nor disagree to this. However, 25.33% of respondents agree by Quality management activities on quality improvement and remaining 22.83% of respondents strongly agree to this.

D. Overall Impact:

How far do you agree that accreditation process has impacted you and your working?

From the above table and graph it is interpreted that out of 200 respondents, 12.67% of respondents strongly disagree that accreditation process has impacted them and their working, which is supported by 20.67% of respondents who are disagree to this, whereas 13% of respondents neither agree nor disagree to this. However, 33% of respondents agree that accreditation process has impacted them and their working and remaining 20.67% of respondents strongly agree to this.

E. Satisfaction Level Of Employees:

Content of the main policies and mission of the centre

There are out of 200 respondents, 12.85% of respondents Highly Dissatisfied by Content of the main policies and mission of the centre, which is supported by 17.36% of respondents who are dissatisfied to this, whereas, 18.20% of respondents Neither Satisfied for Dissatisfied to this. However, 30.55% of respondents Satisfied by Content of the main policies and mission of the centre and remaining 21.04% of respondents highly satisfied to this.

F. Statistical Analysis:

According to the t-Test paired two sample for means of PRE and POST variables data; there is huge difference i.e. huge percent of improvement (50.-61%), which shows the significant effect of improvement in every hypothesis. So the t-Test is rejecting every null hypothesis thus indicating that alternate hypothesis; means goal of my research proved correct.

Also seeing the p value two tailed is much lesser than 0.05 i.e. almost zero (very much lesser than standard error of 5%). So it shows the improvement exists that is their is significant effect. Thus according to this rejecting all the null hypothesis in my research.

According to the regressing statistics the Multiple R; is showing the pearson correction coefficient i.e. what is the correction between the two PRE & POST data value. R square means coefficient of determination, it is simply multiple R square, R squared measures the proportion of the variation in my dependent variable (y) explained by independent variable (x) for a linear regression. Adjusted R is the better model when you compare model that have a different amount of variables. The logic behind it is that R square always increases when the number of variables increases. Meaning that even if you add that particular value contribution is zero. Standard error of the regression is the average distance that the observed values fall from regression line, smaller the regression means.

Y is dependent variable and x is independent variable; $y=a+bx$ where a is intercept, b is beta coefficient slop.

$p>0.05=H_0$: No relation between the two compared data.

$P<0.05=H_1$: There is linear relationship between the two compared PRE & POST variables data value (of outcome indicators KPI, NHP, top management leadership etc.).

In regression table below the ANOVA tables all the p values of all hypothesis is very low i.e. almost zero which indicates low p; rejecting null hypothesis that is more data disagreement (suggests the group being studied; there data is incompatible with null hypothesis). The ANOVA table significance F value and the below given regression table p value of x variable is almost equal. The p value is almost zero, so slop coefficient is zero.

In my all hypothesis i never found high p value, which will indicate fail to reject null hypothesis i.e. less data disagreement between all data and null hypothesis; the group being studied are almost same.

IV. Conclusion:

Thus, the present study will gave 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, applications and satisfaction of both employee and patients.

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.

Bibliography:

- [1] Dodwad SS. Quality Management In Healthcare. Indian J Public Health 2013;57:138-43.
- [2] Talib F, & Rahman Z, "Critical Success Factors Of TQM In Service Organizations: A Proposed Model", Services Marketing Quarterly, Vol. 31, No. 3, Pp.363– 380. 2010a.
- [3] Goldstein, S., & Schweikhart, S. (2002)"Empirical Support For The Baldrige Award Framework In U.S. Hospitals". Health Care Management Review, 27(1), 62–75.

- [4] Baldrige Criteria For Healthcare. <https://www.nist.gov/baldrige/about-baldrige-excellence-framework-health-care>. Accessed On 30th March 2018.
- [5] Bayraktar, E Tatiglu, E And Zaim, S. An Instrument For Measuring The Critical Factor Of TQM In Turkish Higher Education. *Total Quality Management And Business Excellence*. Vol.19 (No.1) (2008) 551–574.
- [6] Dahlgaard, JJ, Kristensen, K, Kanji, GK, Juhl, HJ And Sohal, AS 1998, 'Quality Management Practices: A Comparative Study Between East And West', *International Journal Of Quality And Reliability Management*, Vol. 15, Nos. 8 And 9, Pp.812–826.
- [7] Brah, SA Serene, TSL And Rao, BM. Relationship Between TQM And Performance Of Singapore Companies', *International Journal Of Quality And Reliability Management*. Vol 13 (No.4) (2002) 356–379.
- [8] Carter Robert, E. Lonial Subash, C. Raju, PS. Impact Of Quality Management On Hospital Performance: Empirical Evidence. *The Quality Management Journal*, Vol. 17 (No.4) (2010) 8-24.
- [9] Whyte, J., & Witcher, B. (1992). *The Adoption Of Total Quality Management In Northern England*. Durham: Durham University Business School.
- [10] Zandin, K. B. (2001). *Maynard's Industrial Engineering Handbook*. Fifth Edition. New York, NY: McGraw-Hill.
- [11] Wilson, D.D., Collier, D.A.(2000). "An Empirical Investigation Ofthe Malcolm Baldrige National Quality Award Causal Model". *Decision Sciences*, 31 (2), 361–390.
- [12] Ovreteit, J (1992) *Health Service Quality. An Introduction To Quality Methods For Health Services*, Oxford: Blackwell Scientific Press.
- [13] Donabedian, A (1980). *The Definition Of Quality And Approaches To Its Assessment, Explorations In Quality Assessment And Monitoring*. Vol: 1, Ann Arbor MI : Health Administration Press.
- [14] Escovitz GH, Burkett GL Etal., *The Effects Of Mandatory Quality Assurance, A Review Of Hospital Medical And Processes*. *Med Care* 1978; 16 -94.
- [15] Gold Mann D. Counterpoint: Sustaining CQI. *International Journal For Quality In Healthcare*.9,1:7-9.