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EMPLOYEES ATTITUDE TOWARDS THE IMPLEMENTATION OF QUALITY MANAGEMENT SYSTEMS WITH SPECIAL REFERENCE TO K.G. HOSPITAL, COIMBATORE

P Sivasankar^{1*}

*Corresponding Author: **P Sivasankar** ✉ sankarmpt80@gmail.com

Objective: To document the employee's attitude towards the implementation of quality management systems with special reference to K.G. Hospital, Coimbatore. **Study design:** A Descriptive study design was used to document the attitude of employees about the NABH quality management systems adopted at K.G. Hospital, Coimbatore. By stratified random sampling, the whole population consisting of strata such as doctors, nurses and paramedical employees were taken. Out of 3 strata, 50 doctors, 50 nurses and 50 paramedical employees were randomly selected. The sample size was 150 consisting of 50 doctors, 50 nurses and 50 paramedical employees of K.G. Hospital. A Structured Questionnaire was adopted to capture the six core elements of quality management systems from the employee's perspective. Statistical analysis was done by the Six sigma analytical tool named Poisson distribution model which is to be used to rate the opinion of the employees about the core elements of quality management system adopted at K.G. hospital. **Results:** Six sigma rating for elements of quality management systems are Healthcare professionals' development and participation (3.6), Training (3.7), Information and data for quality improvement (3.6), Presence and role of the quality department (4), Management leadership and commitment to quality (3.8), Process management (3.9). Majority of the employees felt that there is a need for the presence and role of quality department in the hospital. **Conclusion:** This study concluded that employees had positive attitude towards the implementation of quality management systems with special reference to K.G. Hospital, Coimbatore.

Keywords: Quality management systems, Hospital, Employees attitude, Six sigma analysis tool

INTRODUCTION

Quality is doing right, the first time. It is a crucial phenomenon in hospitals since there is no second

choice in delivering care to the needy patients. A quality issue is taken into consideration in the field of industry for the present time, but it seems that

¹ 57, Nithin Niwas, Marudham Nagar, Saravanampatti, Coimbatore-641035, Tamilnadu.

quality has much differentiation in the field of hospital services to improve patient care and patient satisfaction (Mckee, 2000). Quality means to provide appropriate services for appropriate people of appropriate time with efficient practical and humanistic procedures according to average strength of society (Rabinson, 1999).

The Quality Management System (QMS) is a coordinated aggregate of interrelated and interactive activities that determine quality policy and objectives as well as provides health care organizations with guidance and rules in their goal attainment (Vilnius, 2001). The implementation of quality management systems enables health care organizations to define and manage processes that ensure delivery of services that meet customer needs and expectations.

A QMS in health care can be described as a structured organizational process that involves the staff at different levels in planning, measuring and assessing patient care in such a way as to provide optimal medical service to patients (Slujis *et al.*, 2001, Li, 1997, Van Harten *et al.*, 2000). Quality improvement methods can achieve better health outcomes and greater efficiency in the developed countries. Quality improvement closes the gap between actual and achievable practice in terms of service delivery. It unites health workforce by enhancing the individual performance, job satisfaction as well as retention (Leartherman *et al.*, 2010).

To promote quality, various QMS are currently in practice. Some of them include ISO standards, National Accreditation Board for Hospitals and Health Care providers (NABH) and also other international standards like Joint Commission International (JCI).

NABH is a constituent board of Quality Council

of India (QCI), set up with co-operation of the Ministry of Health & Family Welfare, Government of India and the Indian Health Industry. NABH accreditation system is one of the methods for commitment to quality enhancement throughout the whole of the health care system in India. It involves all professional and service groups to ensure that high quality in health care is achieved, while minimizing the inherent risks associated with modern health care delivery.

The main purpose of NABH accreditation is to help planners to promote, implement, monitor and evaluate robust practice in order to ensure that occupies a central place in the development of the health care system.

Problems range from inadequate and inappropriate treatments, excessive use of higher technologies, and wasting of scarce resources, to serious problems of medical malpractice and negligence. Quality Assurance should help to improve effectiveness, efficiency, cost containment, and should address accountability and the need to reduce errors and increase safety in the system. Thus the objective of NABH accreditation is on continuous improvement in the organizational and clinical performance of health services, not just the achievement of a certificate or award or merely assuring compliance with minimum acceptable standards.

The successful implementation of QMS depends on the active participation of the employees whose attitude plays a pivotal role for its better execution throughout the hospitals. Thus, the importance of the capturing and understanding the attitude of the employees about the QMS is paramount and it is much limited in the existing literatures.

K.G. Hospital is a 200 bedded NABH

accredited multispeciality hospital offering a variety of health care services. In K.G. Hospital, The hospital has 250 doctors, 100 nurses and 200 paramedical staffs. Quality assurance department implemented a QMS named NABH (National Accreditation Board for Hospitals and Health Care Providers). Quality assurance department consists of Accreditation Coordinator and Senior Quality Officer and its team members who implemented standards of NABH in all departments of hospital. It has responsibility for continuous improvement in the organizational and clinical performance of health services and it reduce errors and increase safety in health care system.

Quality in Health care is the guiding principle in assessing how well the health system is performing in its mission to improve the health of the citizens. QMS such as NABH accreditation results in high quality of care and patient safety. The successful implementation of QMS depends on the active participation of the employees whose attitude plays a pivotal role for its better execution throughout the hospitals. Thus, the objective of this study to document the employee's attitude towards the implementation of QMS with special reference to K.G. Hospital, Coimbatore.

METHODOLOGY

A Descriptive study design was used to document the attitude of employees about the NABH QMSs adopted at KG Hospital, Coimbatore. By stratified random sampling, the whole population consisting of strata such as doctors, nurses and paramedical employees were taken. Out of 3 strata, 50 doctors, 50 nurses and 50 paramedical employees were randomly selected. The sample size was 150 consisting of 50 doctors, 50 nurses

and 50 paramedical employees of K.G. Hospital. A Structured Questionnaire was adopted to capture the six core elements of QMSs from the employee's perspective. Six core elements of QMSs are Healthcare professionals' development and participation, Training, Information and data for quality improvement, Presence and role of the quality department, Management leadership and commitment to quality, Process management.

Statistical analysis was done by the Six sigma analytical tool named Poisson distribution model which is to be used to rate the opinion of the employees about the core elements of QMS adopted at K.G. Hospital.

The Poisson distribution model meant that when several choices are given in the questionnaire, the chance for a person to report discomfort on every choice is minimum. The choices of the questions will range from score 1 to 5 for every question of the questionnaire. Score 1, 2 and 3 was considered as non-conformance and score 4, 5 was considered as conformance. Some questions have choices as yes or no, where no was considered as non-conformance and yes was considered as conformance.

Probability of occurrence of 'r' defects in an element - P(r)

$$P(r) = e^{-m} m^r / r!$$

where m = average defects per unit

Probability of occurrence of Zero non conformance among response from the employees in each core elements of QMS adopted in K.G. Hospital – P (0)

$$P(0) = e^{-m} m^0 / 0!$$

where m is defects per unit (DPU), defects per opportunity (DPO).

For attribute data, PPM (parts per million) is calculated by the formula as follows

$$\text{PPM} = (1 - e^{-\lambda}) * 10^6$$

In case of DPU, if data is obtained for a long term, then short term sigma level should be

$$Z_s = Z_l + 1.5$$

Where Z_s – short term sigma level, Z_l - long term sigma level

DATA ANALYSIS AND INTERPRETATION

Employee's response towards the core elements of quality management systems were analyzed separately by using Poisson distribution, a six sigma analytical tool and expressed in terms of DPO (Defect per opportunities), PPM (Parts per million) calculations long and short term sigma rating was done. In this study, short term sigma rating was calculated and used to document the attitude of employees towards the quality management systems adopted at K.G. Hospital, Coimbatore.

While analyzing the non conformance level for response from employees towards Health care professional's development and participation was 16,258 PPM and corresponding short term sigma rating was measured as 3.6. The non conformance level for response from employees towards Training was 13,245 PPM and corresponding short term sigma rating was measured as 3.7. Information and data for quality improvement showed the non conformance level for response from employees as 19,801 PPM and corresponding short term sigma rating was measured as 3.6. In case of Presence and role of quality department, the non conformance level for response from employees was 5,540 PPM and corresponding short term sigma rating was measured as 4.0. The non conformance level for response from employees towards Management leadership and commitment to quality was 11,050 PPM and corresponding short term sigma rating was measured as 3.8. Last, the non conformance level for response from employees towards the Process management was 8,298 PPM and

Table 1: Six Sigma Rating For Employees Attitude Towards All The Elements Of Quality Management Systems

S. No.	Elements of Quality Management Systems	No of Questions	No of Employees	No of Respondents	No of Non conformities	DPO	For Zero Non Conformance	PPM for Zero Defect	Short Term Sigma Rating
1.	Health care professional's development and participation	8	150	1200	20	0.016667	0.983471	16,258	3.6
2.	Training	2	150	300	4	0.013333	0.986755	13,245	3.7
3.	Information and data for quality improvement	8	150	1200	24	0.02	0.980199	19,801	3.6
4.	Presence and role of the quality department	6	150	900	5	0.005556	0.99446	5,540	4.0
5.	Management leadership and commitment to quality	12	150	1800	20	0.011111	0.98895	11,050	3.8
6.	Process management	4	150	600	5	0.008333	0.991701	8,298	3.9

corresponding short term sigma rating was measured as 3.9.

Table 2 and Graph 1 summarize the six sigma rating for employees attitude towards all the elements of QMSs as follows

Graph 1 shows Six sigma rating for employees attitude towards all the elements of QMS.

DISCUSSION

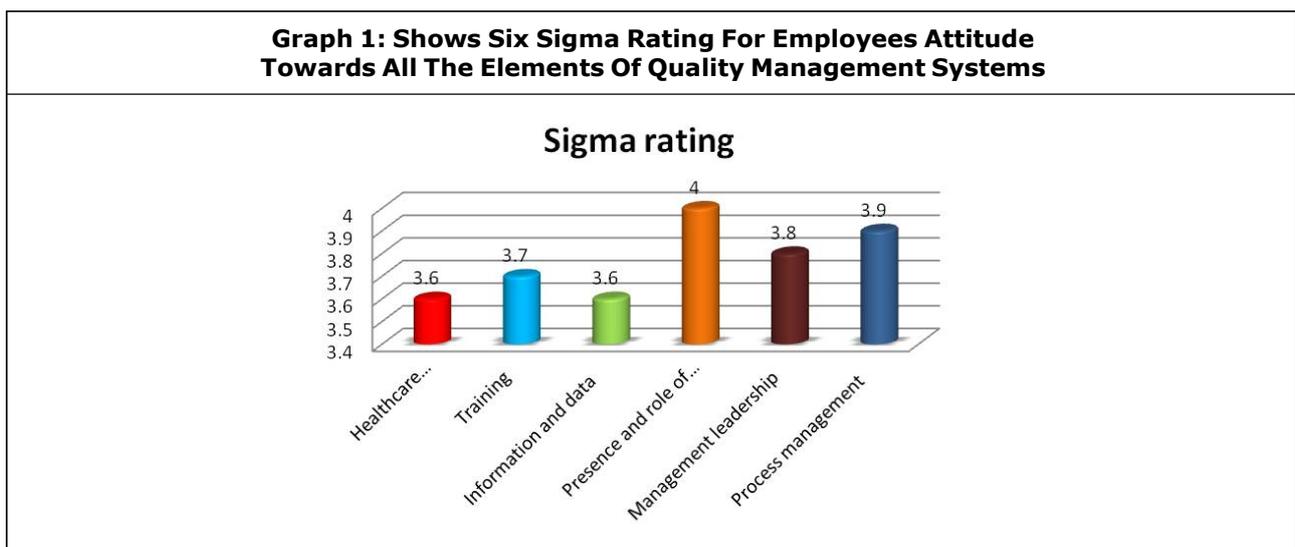
This study was done to document the employee’s attitude towards the implementation of QMSs in multi speciality hospital. Sigma rating was given for employees attitude towards the elements of

QMS implemented in multispeciality hospital. A Cross-sectional, descriptive analytical survey aimed to correlate between knowledge, attitude and performance of the employees with quality assurance system implementation and its indicators observation in Tehran University of Medical Sciences Hospitals’ Clinical Laboratories. Knowledge, attitude and performance of the employees for implementation and observation of quality assurance system and its indicators are more increased and positive with increased level of their academic degrees (Dargahi *et al.*, 2007).

Table 2: Six Sigma Rating For Employees Attitude Towards All The Elements of Quality Management Systems

S. No.	Elements of Quality Management Systems	Sigma Rating
1	Health care professional’s development and participation	3.6
2	Training	3.7
3	Information and data for quality improvement	3.6
4	Presence and role of the quality department	4
5	Management leadership and commitment to quality	3.8
6	Process management	3.9

Graph 1: Shows Six Sigma Rating For Employees Attitude Towards All The Elements Of Quality Management Systems



In a study, Nurse Managers showed positive attitudes towards the quality improvement programs in the East London Hospital Complex. Only two negative attitudes were expressed and the challenges that were related to these negative attitudes were identified as a knowledge deficit concerning the program and lack of managerial support, and a shortage of human and material resource (Tobeka Dondashe, 2011). A study to assess the managerial attitude to the implementation of QMSs in Lithuanian support treatment and nursing hospitals. A questionnaire survey of general managers of Lithuanian support treatment and nursing hospitals was carried out. Majority of the items included in the questionnaire were measured on a seven-point Likert scale. The results showed that the mean of the respondents' perceived QMS significance is 5.8 (on a seven-point scale). The most critical issues related to the QMS implementation include procedure development (5.5), lack of financial resources (5.4) and information (5.1), and development of work guidelines (4.6), while improved responsibility and power sharing (5.2), better service quality (5.1) and higher patient satisfaction (5.1) were perceived by the respondents as the key QMS benefits. QMSs are perceived to be successfully running in one third of the Lithuanian support treatment and nursing hospitals (Ilona Buciuniene et al 2006). A National survey involving all the Italian public health-care providers (352) was carried out to define the underlying factors of the quality management systems that are the best predictors of public health-care providers' organizational performance and to assess the impact of those underlying factors on performance. The total response rate was around 42%. In this study, sigma rating for presence and role of the quality department was high as 4.0,

which is supported by studies as follows. Existence and role of the quality department was an important underlying factor of the quality management systems adopted by Italian health-care providers for the impact of the characteristics of the quality management systems on organizational performance (Manuela S Macinati 2008).

Where, Management leadership and commitment to quality scored the sigma rating of 3.8. Management leadership and commitment to quality is expected to build, maintain and encourage an organizational context that leads to high organizational performance, individual development and organizational learning (Crosby, 1997, Flinn *et al.*, 1995, Juran, 1989). Health care professional development and participation was rated as 3.6 and Training was rated as 3.7. Human resource training, participation and Support are needed to improve quality services in health care where people are the organization's most important resource. Quality of care critically depends on the professionals' individual and team-work abilities. To achieve high quality services, it is important to manage the hospital staff in a defined job scope according to the requirements of their professional culture. Managing hospital staff requires personnel participation and empowerment through continuous staff education and training, team development, task redesign (Crosby, 1997, Juran, 1989, Gravin, 1987, Flinn *et al.*, 1995).

A steady flow of information and data is needed because quality improvement is a science. In health care organizations, measuring and benchmarking clinical performance is necessary to maintain patient focus, drive quality excellence, and improve performance (Flinn *et al.*, 1995,

Benson *et al.*, 1991, Saraph *et al.*, 1989). In this study, Information and data for quality improvement was documented with sigma rating of 3.6.

In this study, Majority of the employees felt that there is a need for the presence and role of quality department in the hospital. Next to that, process management is important to attain the quality improvement in the hospital. Followed by this, Managerial leadership and commitment was considered important to attain the quality. Further, training of employees towards QMSs attracts importance from the employees point of view. Information and data is needed for improving quality of hospital. Finally, health care professionals participation and development is the important factor for quality improvement in hospital.

CONCLUSION

This study concluded that employees showed positive attitude towards the implementation of QMSs with special reference to K.G. Hospital, Coimbatore. Most of the employees showed high six sigma rating towards the presence and role quality department.

Limitations and Recommendations

This study was restricted and confined only at K.G. hospital, Coimbatore and employees bias cannot be ruled out. In further studies, job satisfaction of the employees and patient satisfaction towards the implementation of QMSs, organ can also be studied. Organizational performance after implantation of QMSs can also be measured.

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Hyderabad, INDIA. Ph: +91-09441351700, 09059645577

E-mail: editorijmrbs@gmail.com or editor@ijmrbs.com

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