

The Ranking of Healthcare Before and After the Implementation of Quality Management System of ISO Standard

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ABSTRACT

The purpose of this research is ranking the healthcare before and after the implementation of quality management system of ISO standard that is cross-sectional in application and time horizon. The current researching statistical society includes: (a) All patients that refer to Golestan, Mehr and Imam Khomeini hospitals once before the establishment of quality management and once after it that their number is 24821 persons; and (b) All personnel that are working in hospital wards with the number of 171 persons. Since in the present study, two kinds of statistical societies are involved, therefore; a sample size is determined from each of these two societies based on Kerjcie and Morgan Table, proportional to the size of statistical societies. So, the sample size of patients is equal to 385 persons and the sample size of medical staff is equal to 119 persons. Statistical data collecting tool in this study is two kinds of questionnaires that one assessing the satisfaction amount as well as health level and the other is the questionnaire for assessing the effectiveness of training as well as reducing the working errors of care personnel. Checking the validity of the questionnaire, the faculty supervisor and consultant as well as other experts were consulted and confirmed. Cronbach's alpha coefficient for satisfaction and health level is equal to 0.73, for the questions of effectiveness of the training as well as reducing the working errors of personnel is equal to 0.91 and reliability of the whole questionnaire is equal to 0.78. Analyzing the data, Kruskal Wallis nonparametric test is used. The gained results from the current study show the effectiveness of correct implementation of quality management on the quality and effectiveness of healthcare in the studied caring centers.

KEYWORDS: Healthcare, Implementation, System, Quality Management, Standard ISO

INTRODUCTION

Providers of care-health services consider the enhancing quality as a correct affair. Participation and satisfaction of the customer impact on the organizations' performance. Patient satisfaction has direct relation with receiving respectful and true services. Improving the quality cause the enhancement in expectations, too. When consumers become more informed, organizations are required to meet their expectations. Therefore, strong logic in terms of efficiency and justice ruled that one organized system continually try for improving the quality of care-health services and maintenance, preserve, restore and enhance the mental, social and physical activities of the citizens. Hospital behavior towards its patient as well as its economic and financial relations with him cause an important reflection on the patient's experience towards responding to the care, therefore; the type of access, care, respect and guiding him affect the patients' rights.

Patients' right must be respected and observed in caring or providing services (Sadaghiyani, 2004, p 75-76). Total quality management is a kind of management system that is a component of an organization's strategic plans and its purpose is continuous improvement of services' quality to achieve high levels of customer satisfaction and creating loyalty in customers and employees. Reaching to this aim needs commitment to the quality in the total organization, especially in senior management (Dargahi and et al., 2005, p 17).

Care-health policies is a component of social economic development policies of a country that its purpose is to create a fundamental change in the health status of the people as well as break the vicious cycle of poverty with the help and participation of people. The aim of healthy strategies and policies is equal distribution of resources and observe of social justice. Hospital is a valuable and costly resource of care and health sector as well as a combination of human expertise and skilled, sophisticated and technical equipment and tools, building and material that is constructed to meet the needs of people (AsefZade, 2003, p 113).

BACKGROUND OF THE RESEARCH

At the beginning of the current century, according to the related studies on time measurement of some persons like Fredrick Taylor (1856-1915), Frank B Gillbert (1868-1924) and Harold B Miniard, various methods were created for continual improvement of the efficiency of manufacturing activity. According to the activities of Dr. Shi Wart in 1929, two persons with the names of Doji and Romig published the tables of the products' quality inspection based on sampling methods. In 70 decade BC, because of strong need of countries to existence of uniformity and homogeneity in terms of quality in the world as well as having benchmark and principal in international commercial contracts and having a standard for issuing the certifications and using it via authorized agencies (third party), technical committee of 176 werecreated to develop the related standards to the quality management and quality assurance.

This committee published standards series ISO 9000 according with quality glossary in 1987 (Amiran, 1999, p 10-19). In 1880, FlorensNaitingelassessed the provided medical services to the patients. He recorded his observations and used them for determining the level of provided service and improving the services of hospitals that did under the determined standard. During the civil war in America, Louisa Alkott wrote a book about medical services' quality in the hospitals that was published in 1863.

Quality Management: A set of coordinated activities to direct and control the organization in the related affairs to the quality (Poor Hussein, 2004, p 27)

Continuous Improvement: An activity to be done subsequently to increase the ability to meet the requirements or needs (Poor Shams, 2003, p 8).

Customer's Satisfaction: Customer perception of the extent to which his requirements have been met (Poor Hussein, 2004, p 26)

Effectiveness: Index and measure of planned affairs achievement as well as access to the results and expected goals (Poor Hussein, 2004, p 29)

Health: Science and art of preventing diseases, increasing the longevity, improve health and performance of the people via society's organized effort (in order to improve the environment, fight against infectious diseases, individual health education, providing medical and nursing services for diagnosis and treatment of diseases on time) (Shojaii Tehrani and Ebadi FardAzar, 2007, p 16).

Education: A preplanned set of actions with the aim of increasing the convenience and effectiveness of individual and organization continuously and systematically and improvement of skills and knowledge level as well as related attitude towards the recovery of current and future job performance of the employees (Abbas Zadegan, 1997, p 127).

Working Errors: Nursing errors such as errors that occur during medication administration and patient care are considered problems and they are cases that are available in care-health system but its importance in care and health is because of this reason that against the available errors in other jobs, these ones can have irreparable results and therefore have higher importance. The meaning of error in nursing is an operational term that causesno gaining the result in planned chain of mental and physical activities that is not considered as any luck (MardaniHamule and ShahrakiVahed, 2009).

ZakiyePiri (2002) shows in a research with the title of "Evaluation of the effect of quality management system establishment on in-patients' satisfaction of Shahid Akbar Abadi hospital that around 68% of the patients were satisfied with hospital services. Within different hospital units, patients are more unsatisfied of lack of access to the doctors especially in night shift and hospital costs and they are more satisfied of the behavior of doctors and nurses, availability of medicines and required equipment, hospital's health and the hospital room's facilities.

Thesis of Mr. MajidEsfahaniwas in the field of "The relation between the use of principals of total quality management and employees' effectiveness in Industrial Development and Renovation Organization of Iran." In this research, according to the researcher's most important hypothesis in terms of significance level of 0.001 that is less than 0.05, he concluded that it is a meaningful relation between the use of principals of total quality management and human resources' effectiveness.

A research was done byKayran Cover and Susama Gorge in terms of "Establishment of Standard ISO 9001 in the library of Malaya University in Kuala Lumpur, Malaysia" for establishment of this system for better access of referred persons to receiving library services. The results showed that establishment of this system causes working processes more transparent, better team working spirit and better control of affairs and improvement in customer's relations.

RESEARCH METHODOLOGY

The current study is applicable from purpose view and cross-sectional from time view. The statistical society of the current research includes:

a) All patients that refer to Golestan, Mehr and Imam Khomeini hospitals once before the establishment of quality management and once after it that their number is 24821 persons.

b) All personnel that are working in hospital wards with the number of 171 persons. Since in the present study, two kinds of statistical societies are involved, therefore; a sample size is determined from each of these two societies based on Kerjcie and Morgan Table, proportional to the size of statistical societies. So, the sample size of patients is equal to 385 persons and the sample size of medical staff is equal to 119 persons. Statistical data collecting tool in this study is two kinds of questionnaires that one assessing the satisfaction amount as well as health level and the other is the questionnaire for assessing the effectiveness of training as well as reducing the working errors of care personnel. Checking the validity of the questionnaire, the faculty supervisor and consultant as well as other experts were consulted and confirmed. Cronbach's alpha coefficient for satisfaction and health level is equal to 0.73, for the questions of effectiveness of the training as well as reducing the working errors of personnel is equal to 0.91 and reliability of the whole questionnaire is equal to 0.78. Analyzing the data, Kruskal Wallis nonparametric test is used.

DATA ANALYSIS

Because of the measuring tool scale is rated, Kruskal Wallis nonparametric test is used in this research for comparing the under-studied hospitals (Golestan, Mehr, Imam Khomeini) that their results are shown in the following tables.

Table 1: Comparing the hospitals based on satisfying amount of referred persons and improvement of health level

Indexes	Hospital	Number	Average Rating	Test	Kruskal Wallis
Satisfaction of the Referred persons Before Establishment	Golestan	60	178.16	Chi-square statistic	58.475
	Mehr	85	103.90	Degree of freedom	2
	The system	Imam	203	202.98	The significant level
	Total	348			
Satisfaction of the Referred persons After Establishment	Golestan	60	208.49	Chi-square statistic	9.038
	Mehr	84	174.85	Degree of freedom	2
	The system	Imam	203	164.31	The significant level
	Total	348			
Improvement of health level Before Establishment	Golestan	60	143.21	Chi-square statistic	15.808
	Mehr	85	207.88	Degree of freedom	2
	The system	Imam	203	169.77	The significant level
	Total	348			
Improvement of health level After Establishment	Golestan	60	207.98	Chi-square statistic	15.002
	Mehr	84	191.08	Degree of freedom	2
	The system	Imam	203	157.67	The significant level
	Total	348			

*significant at level 0.05 **significant at level 0.01 NS is not significant

The gained results in the above table show that:

Regarding the satisfaction, the referred persons are ranking the hospitals before the establishment of the quality management as below:

1. Imam Khomeini hospital,
2. Golestan hospital,
3. Mehr hospital.

And after establishment of quality management, they ranked as bellow:

1. Golestan hospital,
2. Mehr hospital,
3. Imam Khomeini hospital

(Since the entire calculated Chi-square statistic at the level of 0.05 with freedom degree of 2 are more than the chi-square critical (5.991))

Regarding the health level improvement, the referred persons ranked hospitals before establishment of quality management system as followed:

1. Mehr hospital ,
2. Imam Khomeini hospital,
3. Golestan hospital

And after establishment of quality management, they ranked as bellow:

1. Golestan hospital,
2. Imam Khomeini hospital,
3. Mehrhospital

(Since the entire calculated Chi-square statistic at the level of 0.05 with freedom degree of 2 are more than the chi-square critical (5.991))

Table 2: Comparing the hospitals based on training effectiveness and reduction of working errors of care personnel

Indexes	Hospital	Number	Average Rating	Test	Kruskal Wallis
Training effectiveness Before Establishment	Golestan	18	75.61	Chi-square statistic	4.474
	Mehr	24	58.67	Degree of freedom	2
	The system	Imam	7	56.77	The significant level
	Total	119			
Training Effectiveness After Establishment	Golestan	18	75.47	Chi-square statistic	9.038
	Mehr	24	74.13	Degree of freedom	2
	The system	Imam	77	51.98	The significant level
	Total	119			
Reduction of Personnel's working errors before	Golestan	18	65.31	Chi-square statistic	0.881
	Mehr	24	62.73	Degree of freedom	2
	Establishment of The system	Imam	77	57.91	The significant level
	Total	119			
Reduction of Personnel's Working errors After The Establishment Of the system	Golestan	18	67.39	Chi-square statistic	9.984
	Mehr	24	67.75	Degree of freedom	2
	After The Establishment Of the system	Imam	77	53.05	The significant level
	Total	119			

*significant at level 0.05

**significant at level 0.01

NS is not significant

The gained results in the above table show that regarding the effectiveness of the provided training to care personnel, there is no significant difference before and after the establishment of quality management from the viewpoint of related units' authorities (Since the entire calculated Chi-square statistic at the level of 0.05 with freedom degree of 2 are less than the chi-square critical (5.991))

But after establishment of quality management, the hospitals are ranked as bellow:

- 1- Golestan hospital,
- 2- Mehr hospital,
- 3- Imam Khomeini hospital

(Since the entire calculated Chi-square statistic at the level of 0.01 with freedom degree of 2 are more than the chi-square critical (9.21))

Regarding the reduction of the care personnel's working errors, there is no significant difference before and after the establishment of quality management from the viewpoint of related units' authorities (Since the entire calculated Chi-square statistic at the level of 0.05 with freedom degree of 2 are less than the chi-square critical (5.991))

CONCLUSION

The purpose of this research is ranking the health care before and after the implementation of quality management system of ISO standard that is cross-sectional in application and time horizon. The current researching statistical society includes: (a) All patients that refer to Golestan, Mehr and Imam Khomeini hospitals once before the establishment of quality management and once after it that their number is 24821 persons; and (b) All personnel that are working in hospital wards with the number of 171 persons. Statistical data collecting tool in this study is two

kinds of questionnaires that one assessing the satisfaction amount as well as health level and the other is the questionnaire for assessing the effectiveness of training as well as reducing the working errors of care personnel. Analyzing the data, Kruskal Wallis nonparametric test is used. The gained results from the current study show the effectiveness of correct implementation of quality management on the quality and effectiveness of health care in the studied caring centers.

Surveying the gained data, we see that in the discussion of hospital ranking in terms of satisfaction, persons who referred to the hospital rated it before the establishment of quality management as below:

1. Imam Khomeini hospital
2. Golestan hospital
3. Mehr hospital

And after the establishment of quality management, they ranked as below:

1. Golestan hospital
2. Mehr hospital
3. Imam Khomeini hospital

Regarding the improvement of health level, persons who referred to the hospital rated it before the establishment of quality management as below:

1. Mehr hospital
2. Imam Khomeini hospital
3. Golestan hospital

And after the establishment of quality management, they ranked as below:

1. Golestan hospital
2. Imam Khomeini hospital
3. Mehr hospital

Regarding the effectiveness of provided trainings to care personnel, there is no significant difference before and after the establishment of quality management from the viewpoint of related units' authorities but according to the gained data, the hospital ranking are changed. Regarding the reduction of the care personnel's working errors; there is no significant difference before and after the establishment of quality management from the viewpoint of related units' authorities but we see changes in ranking.

RESOURCES

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