

Evaluating the Performance of Quality Improvement Team and Their Effect on Service Efficacy Indices in Razavi Subspecialty Hospital

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Received 2017 October 06; Accepted 2018 July 07.

Abstract

Background: Productivity is one of the main indices in development plans; therefore, the performance of quality improvement team in any hospital that is a step towards the Implementation of a comprehensive quality management may be considered as an appropriate management technique for development of human resources as well as promotion of the hospital efficacy.

Objectives: The current study is designed to evaluate the collaborative management method through the performance of quality improvement team in Razavi Hospital.

Methods: This study was carried out in Razavi Hospital, Mashhad during 2016 - 2018 focusing on establishment of a collaborative management system and its effect on the hospital service efficacy. It was an interventional and applied research. The target population included all the staff of Razavi Hospital who volunteered to participate the study, and took measures to promote the hospital efficiency after attending the related training workshops.

Results: According to the findings, the bed occupancy rate of Razavi Hospital increased from 59.5 percent in 2016 to 62 percent in 2017. Meanwhile, the patient's average length of stay decreased by 2 percent compared with the same period last year. The hospital bed turnover rate also increased from 86.3 times in 2016 to 121 times in 2017. Following the formation of quality improvement team and applying the optimal strategies and methods, especially in medical wards, it was revealed that the patient satisfaction had a significant increase in 2017 comparing to 2016.

Furthermore, the job satisfaction (including job promotion, rules and regulations, colleagues, nature of the work, organizational communication and organizational goals) increased by 18.7 percent in 2017 in comparison with 2016 indicating the efficacy improvement at the hospital.

Conclusion: Formation of quality improvement team in Razavi Hospital and their activities have led to relative increase in the hospital management efficacy.

Keywords: Collaborative management, Hospital management efficacy, Productivity

1. Background

The progress of any organization depends on the activities and efforts of all the individuals in that organization; and the efficiency rate of any individuals in societies is considered as a criterion for assessing the efficiency of those activities and efforts in different social- economic sectors. Nowadays not only efficiency and efficacy are more than one index but they are regarded as an attitude to work and life. As a result, any improvement in two factors of efficiency and efficacy is the origin of national development and will make a great impact upon the social, economic, cultural and political events in the society.

In recent years, development of attitudes towards the human resources has led to properly understanding of the importance and values of efficacy. But low level of productivity and efficacy is one of the major problems that all the components and levels of the society, particularly hospitals are involved. Although researches have revealed the attitude towards the efficacy has not yet dominated our society (1), the effective use of material resources

as well as human resources, and also benefiting from the energetic, creative, efficient and committed employees have been fortunately held in high regard during the recent years. Collaboration is considered as a good index for revealing the productivity rate of the organization (2).

On the other hand, as WHO reported: "Health care costs have been on the increase over the past years in most countries. Although limited population of the society may benefit from the health care services provided by the hospitals, the Ministry of Health has allocated a big budget to this importance. Since hospital efficacy has been attracted the attention of most of the top political and health authorities in the world, the hospitals need to focus more on the technical management issues, health priorities determination, and resources allocation (3).

Due to increased costs and reduced resources, increased hospitals efficacy could make it easy to better and stably access to the organizational goals of the hospitals.

It should be noted that the potential and urgent necessity for health cares is unlimited because new diseases are emerging and the associated treatment

methods are expensive and as a result more funds are needed (3).

In addition, one of the challenges of the Ministry of Health in the Third Development Plan is lack of an appropriate management system to apply knowledgeable managers. "In the Ministry of Health, Managers pay special attention to the Job promotion, social success and their personal benefits not to the fate of the organization. Therefore, they do not care about any changes within the scope of their responsibility, and thousands unsolved problems will remain." Lameie believed (4).

All the mentioned items have led to increased daily expenses without considering people's ability to pay the hospital costs and significant decrease in the hospital services and quality (5). Therefore, it is essential to concentrate on more careful planning, develop practical plans to increase efficacy and decrease the hospital costs, and manage them (6).

Nowadays the role of productivity in development plans is regarded as one of the development indices. If optimal allocation of resources is considered as the objective of applying economic science, it could be definitely said that productivity is one of the most important indices of evaluation to achieve this objective. Meanwhile, the principle of productivity should be applied to benefiting from the existing resources and facilities in order to achieve the organizational goals, and also serious attempts should be made to increase the productivity. Although Chief Executive Director (CEO) of the hospital plays a leading role in conducting and managing the affairs, today high regard is paid to the team working in hospital administration (7). In order to develop an inclusive collaboration in hospitals, encouraging creativity and understanding the realities, it is suggested quality improvement team –as one of the techniques of the collaborative management- are involved in grading and scoring the organization. So, intervention of all the employees may lead to identifying and assessing the problems, discovering the related causes, and finally solving those problems.

Although Japanese Management method has been accepted as the most successful method by the quality improvement team in the world, the hospitals in our country have used less this system. The quality improvement team activities are based on three main principles:

- Inclusive quality management
- Customer- oriented
- Continuous improvement

However, the structures of health domain in our country are suffering from the lack of effective inter-departmental relationships, ignoring the importance of customers, and low quality services.

2. Objectives

The current study is designed to evaluate the

collaborative management method through the performance of quality improvement team in Razavi Hospital, and report the results of the polls and field reviews based on the collaborative management indices.

3. Methods

This was an interventional and applied study aiming to develop a collaborative management system by "Quality Improvement Team" in Razavi Hospital, and to determine the effect of quality improvement team on hospital efficacy.

The variable factors in this study included bed occupancy rate, patient's average length of stay in hospital, hospital bed turnover, patient satisfaction with the provided services, and employees' satisfaction. The study population included all the employees of Razavi Hospital and also 20 thousand hospital clients who came daily and accidentally to Razavi Hospital during 2016 - 2017 to receive outpatient, clinical and paraclinical, emergency as well as inpatient services.

After attending the related training workshops, the employees of Razavi Hospital voluntarily entered into the study. The primary and secondary data were collected using valid questionnaires for assessing hospital standards, patient satisfaction questionnaire, job satisfaction questionnaire, interview, and review of documents. Using descriptive statistics, SPSS and EXCEL, data were analyzed.

4. Results

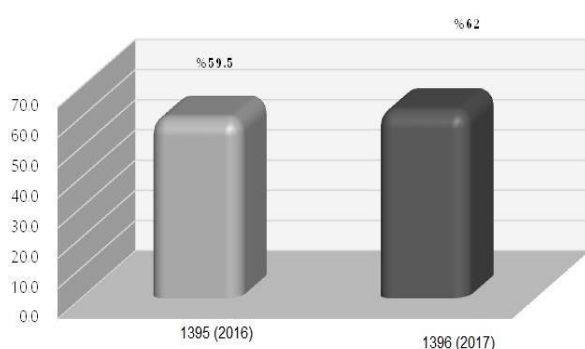
Following the secondary study of various indices of Razavi Hospital in 2018 and after holding training workshops and applying collaborative management system, the following results were obtained:

The first index analyzed in the study was the analysis of the effect of collaborative management of quality improvement team on the hospital bed occupancy rate. As it can be seen in the following figure, the percentage of hospital bed occupancy increased from 59.5% in 2016 to 62% in 2017. In other words, it can be said that after applying collaborative management system in the hospital and formation of quality improvement team in various therapeutic areas, the index increased by 4% in 2017 compared with 2016 (figure 1).

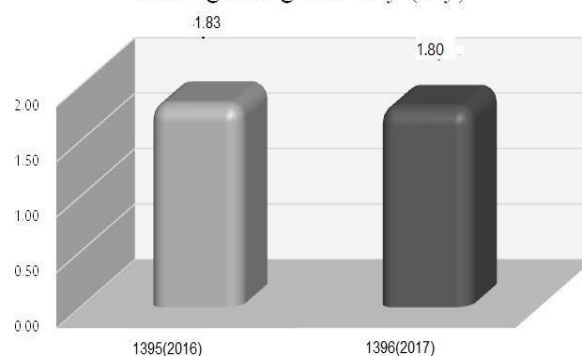
The second index analyzed in the study was the analysis of the effect of collaborative management of quality improvement team on the patients' average length of stay. In this study, the patients' average length of stay decreased by 2 % compared with the same period last year. That is, it decreased from 1.83 days in 2016 to 1.80 days in 2017 (figure 2).

The third index analyzed in the study was the analysis of the effect of collaborative management of quality improvement team on hospital bed turnover

Hospital Bed Occupancy Rate

**Figure 1.** The comparison of hospital bed occupancy rate in 2016 and 2017

Average Length of Stay (day)

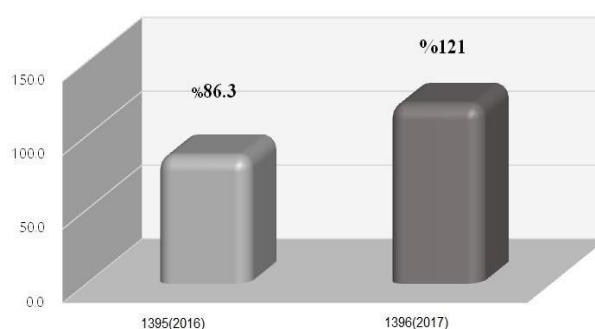
**Figure 2.** The comparison of patients' average length of stay in 2016 and 2017

rate. Evaluating the hospital bed turnover rate indicates that the index increased from 86.3 times in 2016 to 121 times in 2017. In other words, the index size increased by 29 percent in 2017. To put it simply, after applying collaborative management system, each bed was occupied by more patients, reflecting an improvement in hospital efficacy (figure 3).

The fourth index analyzed in the study was the analysis of the effect of collaborative management of quality improvement team on patients' satisfaction with the provided services. Evaluating this index and comparing it in the years 2016 and 2017, the following results were obtained as shown in the table below.

As it can be seen in table 1, after applying quality

Hospital Bed Turnover Rate

**Figure 3.** The comparison of hospital bed turnover rate in 2016 and 2017**Table 1.** The comparison of patients' satisfaction from different aspects in the years 2016 and 2017

Title	2016	2017	Percentage Increase
Satisfaction with staff behavior	74.2	85.4	15.0
Satisfaction with time spend with their physician	74.7	86.7	16.1
Satisfaction with hospital cleaning	78.9	90.0	14.1
Satisfaction with food quality	72.1	84.3	16.09
Satisfaction with wards/units cleaning	77.4	91.9	18.7
Satisfaction with the comfort of hospital beds	76.1	85.3	12.1
Satisfaction with timely cleaning and replacement of sheets	77.2	90.1	16.7
Satisfaction with cleanness and suitability level of patients clothing	76.8	88.9	15.8
Satisfaction with the possibility of rapid nurse-patient communication	73.6	83.7	13.7
Satisfaction with the calmness and peace in the wards	75.0	83.1	10.8
Satisfaction with the behavior and performance of security guards	74.1	82.9	11.9
Satisfaction with physician's attention to patients conversation during examination	74.4	88.7	19.2
Satisfaction with observing purity and impurity laws	76.3	88.4	15.9
Satisfaction with maintaining patients' privacy and confidentiality	77.1	87.1	13.0
Satisfaction with the patience of medical staff	73.8	84.6	14.6
Satisfaction with effective pain relief	71.2	82.9	16.4
Satisfaction with clear and adequate instruction and guidance at the time of discharge	70.8	87.4	23.5
Satisfaction with nurses compassion	72.2	83.7	15.9
Satisfaction with physician's recommendation for faster recovery	74.0	85.2	15.1
Satisfaction with the level of attention to patients' opinions in decision-making	74.8	88.8	18.7
Satisfaction with speed of hospital discharge	68.1	72.5	6.5
Satisfaction with radiographic facilities	72.3	85.2	17.8

improvement team and providing optimal techniques and strategies especially in hospital wards, all the items evaluated for patients' satisfaction variables in 2017 had a positive growth compared with 2016.

The fifth index analyzed in the study was the analysis of the effect of collaborative management of quality improvement team on the employees' job satisfaction. Evaluating this index and comparing it in the years 2016 and 2017, the following results were obtained as shown in the table below.

As it can be seen in Table 2, after applying collaborative management system at all levels of the organization and benefiting from the employees' opinions, comments and inferences and accordingly, taking improvement measures to meet their expectations and desires based on European satisfaction model, all the items evaluated for the employees' job satisfaction variables in 2017 had a positive growth compared with 2016, indicating the improvement of hospital efficacy.

Table 2. The comparison of job satisfaction of Razavi Hospital employees from different aspects in the years 2016 and 2017

Title	2016	2017	Percentage Increase
Satisfaction with salaries and benefits	41.0	46.3	12.9%
Satisfaction with job promotion	44.9	46.8	4.2%
Satisfaction with the behavior of the head of the department/unit	65.3	69.8	6.9%
Satisfaction with organization's appreciation	53.0	55.1	4.0%
Satisfaction with the behavior of the colleagues	70.8	74.1	4.7%
Satisfaction with the nature of the work	63.8	65.7	3.0%
Satisfaction with organizational communication	71.6	74.5	4.1%
Satisfaction with organizational goals	71.7	72.2	0.7%

5. Discussion

One of the major results of the study was the familiarity of staff with quality improvement team and improvement of key processes.

As stated in theoretical research, with the formation of quality improvement team and benefiting from their activities, Razavi Hospital could offer higher quality services which prompt the clients to better accept the hospital services leading to high levels of hospital bed occupancy. Regarding the decrease in the patient's average length of stay, this improvement suggests an increase in hospital efficacy and optimal utilization of hospital beds. This result confirms the findings of other researchers in this regard (8).

The first subject analyzed in this study was the analysis of the effect of collaborative management of quality improvement team on the percentage of hospital bed occupancy. Evaluating the percentage of hospital bed occupancy from 2016 to 2017 suggests that this index increased by 4 percent in 2017 and after applying collaborative management system compared to 2016. Regarding the decrease in the patient's average length of stay, this improvement suggests an improvement in hospital efficiency and productivity as well as optimal utilization of hospital beds. This result confirms the findings of other researchers in this regard (8).

The second subject analyzed in this study was the analysis of the effect of collaborative management of quality improvement team on the patient's average length of stay. In this study, the patient's average length of stay decreased by 2 percent compared with the same period last year. One of the problems of hospital in developing countries is the high average length of stay of a patient leading to a huge amount of resources used by an individual patient (9).

Therefore, most countries are seeking for strategies to reduce the index size. In this interventional study, the quality improvement team helped to reduce the index size by promoting some processes.

The third subject analyzed in this study was the analysis of the effect of collaborative management of quality improvement team on the hospital bed turnover rate. Evaluating the hospital bed turnover rate from 2016 to 2017 indicates that the index size increased by 29 percent in 2017. That is, each bed was occupied by more patients, indicating an improvement in hospital efficacy. Hospital bed turnover rate has an inverse relationship with patient's average length of stay. Therefore, the effective factors in reducing the average length of stay can have a positive effect on the index. Meanwhile, promoting inter-departmental relationships through regular meetings of quality improvement team, changing and enhancing systematic processes related to admission and discharge units, reinforcement of informal organizations and coordinating their objectives with the objectives of the hospital have led to quicker preparation of hospital beds (for readmission) after the discharge of patients (7).

The fourth subject analyzed in this study was the analysis of patients' satisfaction with the provided services which showed a significant increase in all aspects in 2017 compared with 2016. Among these aspects, we can mention the satisfaction with imaging services, staff behavior, hospital cleaning, food quality, wards/units cleaning, calmness and peace in the wards, the patience of medical staff and speed of hospital discharge. In fact, it can be said that the increase in patients' satisfaction is due to positive changes or the promotion of most of the therapeutic and non-therapeutic processes related to customer orientation area in the hospital. This result confirms the findings of other researchers in

this regard (10).

Another subject analyzed in the study was employees' job satisfaction. Due to application of collaborative management system and benefiting from employees ideas, reformation of processes, elimination of costly, time consuming and outdated procedures as well as utilization of up-to-date and systematic electronic processes in most therapeutic and non-therapeutic areas related to staff duties, job satisfaction of the hospital staff had a significant increase in 2017 compared with 2016 in the following aspects.

The results of the study indicated that quality improvement team can contribute to improving hospital productivity. The fact that the staff are the most important resources and assets of service-oriented organization is completely obvious and it has been so many years that the managers of different organizations are aware of it. As a Taiwanese researcher says, "Maybe one of the reasons making managers to be afraid of taking steps towards human resources development and applying collaborative management system is the presence of capable and creative individuals who may endanger their managerial position (11).

In the end, it should be noted that in addition to paying particular attention to staff and productivity, successful organizations differ from other organization in many other areas among which we can refer to the philosophy in the organization. Quality improvement team of organizations can inspire such concepts as family feeling, colleague, friendly relationship, and so on in staff and bring success to organizations.

6. Conclusion

Formation of quality improvement team in Razavi

Hospital and their activities have led to relative increase in the hospital management efficacy.

Acknowledgments

they appreciated from deputy of research for the Razavi Hospital in Mashhad to support this research.

Conflicts of interest

None.

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