

Effectiveness of using FOCUS PDCA approach as a quality improvement tool among public health deputy staff in Tabriz University of medical sciences - 2002.

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Abstract

Objectives: In an organization quality improvement is one of the important stability factors in a changing environment. Participation of personnel has a deep influence in proceeding of quality

improvement in the organizations. Public Health deputy of Tabriz University of medical sciences has been using FOCUS PDCA approach since 1999 to strengthen partnership personnel in quality improvement.

Methods: FOCUS PDCA has nine steps and enables staff to improve processes via partnership. In this approach staff has a important role in clarifying of processes, analyzing the problems, choosing appropriate strategies, making proper plans and executing them. Staff trained about FOCUS PDCA method, during 3-4 days in especial workshops. This study is a descriptive and cross sectional study and variables like staff participation, managers' support and effectiveness of chosen strategies are assessed

Results: Since the starting of the program, more than two thousand physicians, health experts and tutor mentors of health houses have taken part in these work shops and more than 500 processes were selected for improvement and about half of them have been finished. A team improves each process and average members of each team were 5.8.

Conclusion: The strength points of this project are: vast staff education, team working and considerable participation of physicians and managers in teams. Failures were derived by limited participation of clients and other public sections.

The items to strengthen the project in the future are: Annual planning based on processes, involving consumers and public sectors in the teams and developments of the sites.

Introduction

Quality improvement is one of the important challenges that every organization has been faced in recent years. As organizational environment is changing continuously and there is incremental limitation of resources, daily increased consumer demands and finally growing competition among providers; it seems necessary to pay attention on quality improve to survive.

Most public or private organizations, has realized the importance of workers partnership in quality improvement. In order to protect the organizational survival in the competing

environment, many strategies are being used to encourage the workers to participate in improving processes and enhance the quality of services.

Just managers will not obtain quality improvement by hard working of managers; it needs staff participation in all levels of management. Participation does not mean doing the orders of managers, but real participation is involvement of staff in all steps of decision-making, planning, execution and evaluation. In other word, participation is to be confident for correct decisions by suitable staffs [1].

In an organization, developing the idea of staff participation is essential to strengthen the creativity, team working, facilitation of management and organizational adaptation to environmental changes. Unfortunately, in public organizations, there is no enough attention to these important criteria or it is just in its theoretical levels; as a result, the designed programs are being performed weakly and quality of services are low and it is obvious that Lack of staff participation in improvement of their services will upset them [2].

Workers who participate in decision making typically feel commitment to making the proposed course of action work. Participation generates enthusiasm and increases workers motivation. Solving problems, gives staff members a sense of achievement and boosts their self confidence (3)

Organization culture should be developed gradually by modeling of beliefs, values and behaviors of managers and it should also be able to change the behavior of every organizational members and should make a shelter to cover all beliefs, values, actions, and dialogs in the organization [4]; in order to develop such an organizational culture an appropriate strategy is needed.

The limitations and obstacles in staff participation and teamwork for quality improvement are:

There is not a clear definition of staff partnership in the organizations.

Managers did not accept the philosophy that all staff want and are able to improve conditions.

Managers are not aware of their leadership role in quality improving, so they concentrate just on staff activities.

Inappropriate organizational structure, which ends to ineffective, staff communication in different levels of the organization.

Lack of appropriate and acceptable strategy to encourage employees to participate in improvements.

Partnership capacity are developing in the organizations by the time and on the other side problems of the organizations are being very complicated, so processes could not be improved only by managers and participation of workers in all levels is very essential for improvement [5].

Tabriz University of Medical sciences after analysis of weaknesses of its own organization have found that staff participation is the most important strategic step in quality improvement. They realized that choosing an appropriate approach (FOCUS PDCA) will end to vast staff participation in improving the quality of services.

Using FOCUS PDCA and choosing more than 500 processes to improve and participation of more than 3,500 staff in quality improvement processes, demonstrates the effectiveness of this strategy. Tabriz University of medical sciences after analyzing the results of these activities wants to find effective ways for participation of staff in quality improvement. In the future, it can be a model for quality improvement among staff in public organizations especially in the health care organizations.

Objectives

The main objective of this study is to determine the effects of FOCUS PDCA approach in improving the processes in public Health section of Tabriz Univ. of medical sciences.

Specific objectives:

Determining status of FOCUS PDCA training.

Determining the amount of staff participation and using FOCUS PDCA for process improvement.

Determining quality of using FOCUS PDCA by the staff.

Determining effectiveness of FOCUS PDCA in process improvement.

Methods

Samples and designs:

This study is a descriptive and cross sectional study. Data were gathered from existed documents in province health center and has been analyzed with SPSS program. Information modeling focused on central indicators and rates.

Province health center is managing public health in whole province through district health centers all over the province. There are 20 district health centers in this province that have managerial role and monitor peripheral service units including urban and rural health centers, health houses and mobile teams. The populations that covered by health units are about 3 million and the numbers of staff are about 6000. In quality improvement project, all of the activities about FOCUS PDCA are directed by province health center.

Documents about process improvements registered in a standard form, which has been prepared in province health center. Data about process improvement has been gathered in those forms and reported to Province Health center from the peripheral units every quarter. Processes have been assessed and given feed back by related experts.

Required data for this study have been chosen from available documents in the Province Health center. A standard questioner has been designed by the aid of five experts, which had sufficient experiences in FOCUS PDCA in the sites. Data were extracted from documents and entered to that sheet by myself.

Review about FOCUS PDCA:

FOCUS PDCA is suitable approach to improve the processes. The Hospital Corporation of USA created it in 1980 by adding of FOCUS on the PDCA cycle and it has been used in various organizations since then (6). This approach has nine steps for improvement of processes and FOCUS is acronym for the words find, organize, clarify, understand and select. PDCA is an acronym for plan, do, act and check results (7).

F: Find a process for improvement.

O: Organize a team among stakeholders for improvement of the process.

C: Clarify the steps of the process by drawing a flow chart and design indicators that demonstrate the performance of the process.

U: Understand the important factors, which have led to the existed results in processes (reasons which led to ineffective performance of the process) and prioritization of the factors.

S: Select strategies to solve the problems.

P: Plan for performing of the chosen strategy. This includes a table with related activities, time bounding and responsibilities.

D: Doing the activities.

C: Check of results and compare them with the previous results.

A: Act based on new results and redesigning if needed [8].

Variables:

Variables in this survey including staff training, type of processes, team work, standing of process improvement, measurement criteria, strategies for improving of processes and finally effectiveness of process improvements.

FOCUS PDCA approach is educated by holding workshop in all districts. These workshops are being held in 6 days for BEHVARZES and 3-4 days to other staffs. Then every trainee, chooses a process relevant to his or her job, form a team and tries to improve it.

Establishing of training centers in every district and training several trainers, has created efficient training process in this project. Province health center has trained a team of tutor mentors for every district who are responsible of training and they peripheral staff by using a standard module and a trainer guide.

Weekly meetings have been designed for trouble shooting and giving the reports, displaying managerial video films and presenting new ideas. The improved processes are being reported in a journal (leaflet), which is being published every two months to create a mean of exchanging the information among employees and helps them to share their experiences.

Process improvement by FOCUS PDCA suggested to the entire top and peripheral units (District health centers, urban health centers, rural health centers and health houses) in public health deputy affairs of the university and all of the volunteers are being trained a bout FOCUS PDCA. They are free to choose every process that is related to their duties.

The team leader, who has chosen the process for improvement, is determining the team members and there is a guide for this purpose in guidebook.

The improvement team chooses some indicators for every process which quality of improvement is assessed based on those indicators.

In the fifth step of FOCUS PDCA, there are some strategies to improve the processes, some help us to change the design of process and some others leads us to execute the process according to designed rules.

From the beginning of the project, 374 physicians, 624 health experts, 534 technicians, 160 health house tutor mentors (trainers of health house staff), 342 other staff and totally 2,034 personnel were trained on FOCUS PDCA approach in the public health section of Tabriz university of medical sciences. Training of 1800 Behvarzes has begun with special training course.

131 processes in the year 2000 and 168 processes in the year 2001 were improved.

Out of 299 reported processes 39 processes excluded for imperfect documents and 260 processes with the available data were analyzed. The results show that, 8% of processes are related to logistic and 92% to service units, also 31% of them are related to administrative level and 69% are from peripheral processes.

The average members of the teams were 5.8 and almost 3500 persons were involved in process improvement. It is important to mention that one person could take part in more than one team.

Physicians were involved in 71.9% of teams and there were 1.1 physicians in each team.

Health experts were involved in 85.4% of teams with average number 2.3.

District level managers, experts from higher levels, tutor mentors of health houses, Behvarzes (health house staffs), clients, logistic staffs were involved in 23.4%, 39.6%, 21.9%, 16.7%, 12.5% and 36.2% of teams respectively.

Table one demonstrates the places where the processes were improved. Urban or Rural Health Centers are at the top as shown in table one.

Table 2, 3, 4 demonstrate types of processes, strategies and type of performance indicator respectively. Children care is on the top of the list and pregnant mother's care, environment health control, family planning, care of patients, Pap smear, drinking water sanitation and case finding follow respectively. These eight titles among studied processes comprise more than 56% of the improved processes.

31.1% of performance indicators are related to coverage of services, 47.7% are time indicators (duration of service provision, number of services in defined period, delay in registration and on time provision) and the 9.2% of them are about quality of services (table 3).

42.1% of strategies are related to improving the design of the processes (developing new standards and change the steps of process) and the rest of them involve process-performing styles (Table 4).

Table five compares the effectiveness of processes before and after the improvement.

Discussion

FOCUS PDCA approach has a lot of potentials for quality improvement including Teamwork opportunity, participation among different levels of organization, collaboration of people and other sectors, efficient use of data for problem solving and introduction of a management system based on information (MIS) and finally process improvement based on facts (indicators, flow chart, and feedback from consumers and...). Other studies shows that using a standard approach also were successful in other centers (Baethman, Lehr and Wirth, 1998; Mckinley, Parmley and tonneson, 1999; Simons, Eliopoulos, Laflamme and Brown, 1999) (9).

A study, which took place in French hospitals in 1995 -1996, has some similarity to our study in type of variables (10):

Change in managerial and organizational culture is very important in establishing of process improvement and it takes a long time for the managers to adopt themselves to total quality management principles. Our study shows that, managers took part in 23.4% of the processes in improvement teams and they also allocated some budget for the teams in the districts, but the support was not adequate and yet they have not enough enthusiasm for

continuing effective support of the improvements in the sites. The French study shows that about 80% Of process improvements enjoyed managerial support in training and budgeting fields but they don't address any contribution of managers in the improvement teams; perhaps they had only administrative support. Same paper shows that staffs had a lot of interest to take part in projects and also extend it in the other departments. In our study also staff participation was remarkable and about 30% of staff took part in training courses and most of the trained staff got involved in process improvements.

Reasons for employee acceptance to use FOCUS PDCA in improvement of their processes in our study are:

Belief of high project managers to ability and interest of employees for improvement of their processes.

Project managers, Supported using this method by developing teaching centers, training tutor mentors, specializing one day in a week as quality day, provision of teaching resources, encouragement of successful teams, publication of a newsletter and organizing of district, provincial, and national meetings.

Voluntary use of this method in improving of processes.

Inherent ability of FOCUS PDCA in attracting employees attention and motivating them to use this method by encouraging them toward self evaluation, exchange ideas in groups, contribution in analysis and solving the problems of the processes.

In the French study, researchers believe that, some factors like simple rigorous method, voluntary participation, sufficient communication, effective leadership and multidisciplinary teams contributed toward the success of CQI by using FOCUS PDCA.

From result point of view, the variables are some different from our study. In French study more than 50% of 60 projects, had met their objectives, which is comparable to our study results showed in table 5.

One of the most important issues in using quality improvement tools is rate of real use of the tools in practice, not only training in the classes. A study by Kathryn Walker and colleagues (11) shows that 80 percent of participants in quality improving skills training classes strongly agreed that their participation in the class had enhanced their success on the job and only 27 percent of participants responded "no" when asked if their manager encouraged and inquired about their use of quality tools and concepts (11). In our study most of the trained staff took part at least in one process improvement. The tools of quality improvement are just that-tools. The training is of little use if it is not translated to organizational results.

Conclusion

After analyzing the results of using FOCUS PDCA in quality improvement in Public Health affairs of the Tabriz University of Medical sciences, strengths and weaknesses can be discussed as bellow:

Strengths:

Successful staff education on FOCUS PDCA.

Development of training among all employee level.

Staff acceptance and commitment to use this strategy in their works.

Team working in process improvement.

Remarkable participation of managers, physicians and health experts in improvement teams.

Focusing on main and important processes.

Weaknesses

Fewer processes improved in headquarter levels. (It may be caused delay in training at this level).

Limited involvement of consumers as the main members in improvement teams.

Using supportive and educational strategies for improving processes rather than fundamental changes.

4. Low involvement of the health houses.

Suggestions: Based on the results, the following points should be designed and performed in the future.

1: Designing annual program based on processes: Employees at all levels of the headquarters and peripheral should prepare their program by taking steps for identification, monitoring, prioritization and improvement of their processes each year.

2: Involving of district level managers in process improvement.

Preparation of special teaching modules for the behvarzes (health house staff).

4: Strategic planning for long-term support of this approach in the organization.

5: Designing models of partnership of people and other organizations in process improvement.

6: Setting incentive for improving the processes.

Table 1: Distribution of processes according to location - Tabriz University Of medical sciences - 1999-2001

Place	Number	Percent
Urban & Rural Health Center	136	52.3
District health center	103	39.6
Health house	17	6.5
Others	4	1.6
Total	260	100

Table 2: Distribution of process improvement according to type of process - Tabriz univ. of medical sciences -1999-2001

Type	Number	Percent
Child care	43	16.7
Pregnancy care	27	10.4
Sanitation of public places	22	8.5
Family planning	21	8.1
Patient care	21	8.1
Pap smear	17	6.5
Control of drinking water	11	4.2
Case finding	11	4.2
Other	87	43.3
Total	260	100

Table 3: Distribution of processes according to performance indicator- Tabriz University of medical sciences -1999-2001

Performance indicator	Number	Percent
Coverage of services	81	31.1
Duration of service provision	46	17.7
Number of services in defined period	39	15
Delay in registration	32	12.3
Quality of services	24	9.2
Staff knowledge	17	6.5
Consumer satisfaction	9	3.6
On time provision of services	7	2.7
Other	5	2
Total	260	100

Table 4: Distribution of chosen strategies for process improvement - Tabriz univ. of medical sciences a-1999-2001

Strategy	Number	Percent
Development of new standards	6	21.4
Change the steps of process	54	20.7
Follow up the consumers	50	19.2
Client empowerment	43	16.5
Staff empowerment	36	13.8
Improving monitoring	12	4.6
Providing equipment	9	3.4
Providing manpower	1	0.4
Total	260	100

Table 5: Comparison of processes before and after improvement - Tabriz univ. of medical sciences - 1999-2001

Measurement criteria and unit	Before	After
Coverage (%)	38	72
Duration of providing a service (minutes)	41.28	16.76
Number of services in defined period of time	27.72	58.5
Delay in registration (days)	42.4	11.5
Weakness in quality of services (%)	32.2	22.4
Staff knowledge (%)	35.6	55.4
Client satisfaction (%)	33.36	42.08
On time provision of services (%)	22.74	28.28

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