



Letter to the Editor

Using FOCUS-PDCA Methodology for Improving Processes and Patient Condition Indicators within the First 6 Hours of Admission in Emergency Department of Sina Hospital, Tabriz, Iran

Hospital is the most important health care organization [1] and emergency department has a special status with some particular duties including providing prompt, high-quality, and effective services [2-3].

Evaluation and determining patient condition are the most important aspects of service delivery in emergency departments. Long and unreasonable stay in this department reduces timely services to other patients and increases mortality and dissatisfaction [4]. These problems lead to the importance of decision-making in terms of upgrading and change in emergency departments [5]. The present study used FOCUS-PDCA to promote emergency processes and patient condition indicator within 6 h at Sina Hospital, Tabriz University of Medical Sciences, 2012.

FOCUS-PDCA model was used to promote processes. First, processes were selected for improving and a team of process owners was organized for their improvement. In the next step, change needed for process performance was determined and the part of the process that need to promotion was selected. In the last step, change was applied. These activities are frequently continued to complete the reform process for obtaining favorable results [6].

Interviewing with team of process owners and calculating waiting time of key processes were used to understanding the causes of delay. convergence chart and fish bone diagram were drawn for understanding and categorizing the roots of problems [6]. Then, causes are restricted to the intervention and was proposed some solutions by brainstorming. Final solutions were selected by a nominal group. Brainstorming refers to considering all comments and a nominal group technique is used for preparing a comment list and selecting a few of them [6]. Descriptive statistics and t-tests were used for data analysis through SPSS. Also, content analysis was performed for summarizing the staff comments. Solutions were developed by the process owners, as presented in Table 1.

After implementing the interventions, patient condition indicator within 6 h was improved from 94.71% to 96.87%. The number of patients who had stay for over 6 h was reduced from 101 people in May to 52 in November 2012, which showed a significant difference (p-value <0.002). Statistical analysis of the results is presented in Table 2.

Table 1. Reasons and solutions according to the comments of emergency personnel.

Interventional causes	Solutions
Shortage of equipment in laboratories	Purchasing the needed equipment for laboratory
Failure in the timely submission of laboratory results, particularly UA and CBC	Increasing the number of laboratory personnel Separating tests of emergency department from those of other wards
Long distance of para-clinical wards from emergency departments spatially pharmacy	Establishing pharmacy in hospital
Insufficient computer knowledge emergency admission and discharge staff	Training the personnel responsible for transporting the specimen Computer training for admission and discharge personnel about computer
Delay in providing consultation by residents	Reporting absence or delay of residents from emergency department

Table 2. Statistical analysis of the interventions results.

Type of interventions	Before	After	P value
	Mean waiting time for receiving specimen (min)		
Training the personnel responsible for transporting the specimen	30.16	19.76	0.209
	Mean waiting time for receiving laboratory reports		
	70.26	37.66	0.006
	Mean waiting time for receiving consultation in emergency		
Reporting absence or delay of residents from emergency department	28.1	17	0.00
	Improvement in the access to appropriate medical stocks such as adenosine, alcohol, norepinephrine, and IUPAC (International Union of Pure and Applied Chemistry) was evident after the pharmacy establishment		
The number of patients who had stay over 6 h in the emergency (unreasonable)	101	52	0.002

Using FOCUS-PDCA methodology had a positive impact on improving emergency department processes in this study. It seems that this method can be helpful in improving various processes in emergency departments and other wards in hospitals.

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