Failure Mode and Effect Analysis in Increasing the Revenue of Emergency Department

Farhad Rahmati¹, Ali Shahrami*, Alireza Baratloo¹, Behrooz Hashemi¹, Nastaran Sadat Mahdavi², Saeed Safari¹, Hamidreza Hatamabadi¹

¹Emergency Medicine Group, Shahid Beheshti University of Medical Sciences, Tehran, Iran
²Anesthesiologist and Intensive Care Specialist, Shahid Beheshti University of Medical Sciences, Tehran, Iran

*Corresponding author: Ali Shahrami; Tehran, Shahid Madani Street, Imam Hossein Hospital. Tel: 021-73432380
Email: ashahrami@sbmu.ac.ir

Abstract

Introduction: Successful performance of emergency department (ED) is one of the important indications of increasing the satisfaction among referees. The insurance of such successful performance is fiscal discipline and avoiding from non-beneficial activities in this department. Therefore, the increasing revenue of emergency department is one of the interested goals of hospital management system. According to the above-mentioned, researchers assessed leading causes of loss the revenue and eliminate them by using failure mode and effects analysis (FMEA).

Methods: This was the prospective cohort study performed during 18 months, set in 6 phases. In the first phase, the failures were determined and some solutions suggested eliminating them. During 2-5 phases, based on the prioritizing the problems, solutions were performed. In the sixth phase, final assessment of the study was done. Finally, the feedback of system’s revenue was evaluated and data analyzed using repeated measure ANOVA.

Results: Lack of recording the consuming instrument and attribution of separate codes for emergency services of hospitalized patients were the most important failures that lead to decrease the revenue of ED. Such elimination caused to 75.9% increase in revenue within a month (df = 1.6; F = 84.0; p<0.0001). Totally, 18 months following the eliminating of failures caused to 328.2% increase in the revenue of ED (df = 15.9; F = 215; p<0.0001).

Conclusion: The findings of the present study show that failure mode and effect analysis can be used as a safe and effected method to reduce the expenses of ED and increase its revenue.

Keywords: Revenue; failure mode and effects analysis method; emergency service, hospital; emergency medicine