بسم الله الرحمن الرحيم

∞∞∞∞

تم رفع هذه الرسالة بواسطة / حسام الدين محمد مغربي

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات:
.....
.....
.....
.....
.....

Six sigma: A plan for improving hospital discharge process

Thesis

Submitted for Fulfillment of the Requirements of Doctoral Degree in Nursing Science

By

Manar Sayed Mohamed Emam
(M.Sc. Nursing)

Faculty of Nursing
Ain Shams University
2015

Six sigma: A plan for improving hospital discharge process

Thesis

Submitted for Fulfillment of the Requirements of Doctoral Degree in Nursing Science

By

Manar Sayed Mohamed Emam
(M.Sc. Nursing)

Supervisors

Prof. Dr. Samia Mohamed Adam
Professor of Nursing Administration
Faculty of Nursing
Ain Shams University

Dr. Rabab Mahmoud Hassan
Assistant Professor of Nursing Administration
Faculty of Nursing
Ain Shams University

Faculty of Nursing
Ain Shams University
2015

Acknowledgement

First of all I feel always indebted to Allah, the most kind the most merciful, who helping me to finish this work.

I would wish to thank Prof. Dr. Samia Mohamed Adam, Professor of Nursing Administration, Faculty of Nursing Ain Shams University, for her meticulous supervision, valuable knowledge and sisterly overwhelming attitude.

I likewise want to extend my thanks to Dr. Rabab Mahmoud Hassan, Assistant Professor of Nursing Administration, Faculty of Nursing Ain Shams University for her meticulous observations, remarkable comments, step by step guidance throughout this study.

Finally, I would like to offer my deep thanks to discussion committee Prof. Dr. Harisa Mohamed Aly ELshimy, Professor of Nursing Administration, Faculty of Nursing Ain Shams University, and Prof. Assistant Dr. Eglal Ahmed Abd Elwahab, Professor of Nursing Administration, Faculty of Nursing Cairo University for their acceptance to discuss this thesis.

Abstract

The coming years will bring changes and further improvements over the World, Six Sigma has an important place in the field of continuous improvement. Six Sigma means a measure of quality that strives for near perfection. Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects in any process.

The aim of the study was improving the hospital discharge process through developed plan using Six Sigma.

The study conducted at the El Galaa Family Military Hospital by using pre experimental design, it was conducted at inpatient units, and it involved 240 patients and eight team members as a multidisciplinary health team. Data collection tools used in the study was structured questionnaire sheet and three quality tools, namely; Pareto chart, cause and effect diagram and matrix charts.

The study findings revealed increase patient satisfaction level about the discharge process after implementing a developed plan for improvement. The study showed a highly statistically significant difference ($p<0.01$) of patient satisfaction level through comparison regarding pre and post implementation of a developed plan by using DMAIC methodology to improve discharge process.

In conclusion, a plan for improving discharge process which developed and implemented by six sigma methodology, its applicability was shown through remarkable patient satisfaction.

It recommended applying six sigma methodologies in different processes related to patient care for improving quality of care with training of different health care staff in its implementation. Otherwise, Patient satisfaction should be concerned in the quality measurements of the organization services.

Key words: **Six Sigma, improvement, discharge process & patient satisfaction**

Contents

List of figures and tables (Review)

List of tables:

List of figures:

List of tables (Results)

List of tables (Results)

List of tables (Results)

List of tables (Results)

List of figures (Results)

List of figures (Results)

List of abbreviations

1	**DMADV**	:	Define, Measure, Analyze, Design, Verify
2	**DMAIC**	:	Define, Measure, Analyze, Improve ,Control
3	**D. P.**	:	Discharge Process
4	**ISO**	:	International Organization for Standardization
5	**JCAHO**	:	Joint Commission Accreditation of Healthcare Organizations
6	**NABH**	:	National Accreditation Board for Hospitals
7	**Ph.**	:	Physician
8	**pt.**		Patient

Introduction

Six Sigma provides an efficient mechanism to focus on customer requirements through improvement of operation quality. Its implementation requires careful strategic planning and strong management commitment. It is a process management system that utilizes statistical analysis to evaluate and enhance operational efficiency in order to improve product or service quality. Six Sigma is used for process improvement in health care; its goal is to eliminate medical errors, meet customer/patient's needs and reduce hospital cost without affecting quality of care. Getting support from the workforce is fundamental to success ***(Joseph, 2011).***

The statistical representation of Six Sigma describes quantitatively how a process is performing. To achieve Six Sigma, a process must not produce more than 3.4 defects per million opportunities. A Six Sigma defect is defined as anything outside of customer specifications. ***(Marian, 2010).*** The fundamental objective of the Six Sigma methodology is the implementation of a measurement-based strategy that focuses on process improvement and variation reduction