

**THE IMPACT OF HOSPITAL NURSE STAFFING, WORK
ENVIRONMENT AND PATIENT-CENTEREDNESS ON THE
QUALITY OF CARE AND PATIENT SAFETY**

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**By
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**Thesis Submitted to
School of Business Management
Universiti Utara Malaysia,
in Fulfillment of the Requirement for the Degree of Doctor of Philosophy**

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ABSTRAK

Industri penjagaan kesihatan mempunyai banyak persoalan yang kompleks. Kualiti penjagaan dan keselamatan pesakit kini menjadi keutamaan di peringkat kebangsaan dan juga antarabangsa. Namun, amat sedikit usaha dilaksanakan terhadap peningkatan penjagaan rawatan bagi mengoptimumkan hasilnya. Kajian ini menyelidik secara empiris kesan daripada perjawatan jururawat dan persekitaran kerja mereka ke atas kualiti penjagaan dan keselamatan pesakit di wad-wad perubatan dan pembedahan hospital swasta di Malaysia. Selain itu, kajian ini juga mengkaji kesan pengantara jagaan berorientasikan pesakit (*patient-centeredness*) melalui pengaruh perjawatan dan persekitaran kerja ke atas kualiti penjagaan dan keselamatan pesakit. Tinjauan berbentuk keratan lintang (*cross-sectional*) telah dijalankan di dua belas (12) buah hospital swasta. Data diperoleh melalui borang soal selidik daripada 652 orang jururawat yang mewakili 61.8% kadar respons. Persampelan rawak mudah berstrata telah digunakan bagi membolehkan jururawat daripada semua syif kerja mengambil bahagian dalam kajian ini. Analisis regresi dan makro *PROCESS Hayes* telah dijalankan bagi menguji hipotesis kajian. Keputusan analisis menunjukkan bahawa perjawatan mempunyai kesan negatif yang tidak signifikan ke atas hasil penjagaan, manakala persekitaran kerja pula mempunyai kesan positif yang signifikan. Tambahan pula, jagaan berorientasikan pesakit (*patient-centeredness*) mempunyai kesan pengantara yang signifikan ke atas hubungan kedua-dua perjawatan dan persekitaran kerja dengan hasil penjagaan. Model untuk meningkatkan kualiti penjagaan dan keselamatan pesakit telah dicadangkan. Implikasi praktikal kajian menunjukkan bahawa jagaan berorientasikan pesakit (*patient-centeredness*) mengurangkan kesan negatif kekurangan jururawat dan tempoh syif, serta memperkukuhkan kesan positif daripada persekitaran kerja ke atas hasil penjagaan. Sebagai cadangan, faktor pengantara lain diperlukan untuk kajian masa hadapan bagi mengkaji kesan perjawatan dan persekitaran kerja jururawat ke atas kualiti dan keselamatan penjagaan pesakit.

Kata kunci: kualiti penjagaan keselamatan pesakit, perjawatan, persekitaran kerja, jagaan berorientasikan pesakit (*patient-centeredness*).

ABSTRACT

The healthcare industry is complex in nature. The quality of care and patient safety has become a national and international priority. Limited efforts have been made on improving nursing care in order to optimize the outcomes of care. This study empirically investigated the impact of hospital nurse staffing and work environment on the quality of care and patient safety in the medical and surgical wards in Malaysian private hospitals. The mediating effect of patient-centeredness on the effect of both hospital nurse staffing and work environment on the quality of care and patient safety was also investigated. A cross-sectional survey was conducted on 12 private hospitals. Data was collected, through questionnaires, from 652 nurses, with a 61.8 % response rate. The stratified simple random sampling was used to allow nurses from all shifts to participate in the study. Regression analyses and the Hayes PROCESS macro were conducted to test the hypotheses. The results showed that staffing had an insignificant negative impact on the outcomes of care, whereas work environment had a significant positive impact. Moreover, it was found that patient-centeredness significantly mediated the effect of both staffing and work environment upon the outcomes. A model for improving the quality of care and patient safety was proposed. The practical implications indicated that patient-centeredness suppresses the negative impact of nursing shortage and shift length, and complements the positive impact of work environment on the outcomes of care. Further mediators are recommended for future research on the impact of both hospital nurse staffing and work environment on the quality of care and patient safety.

Keywords: quality of care, patient safety, staffing, work environment, patient-centeredness.

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GLOSSARY OF TERMS

Adverse events: the unexpected patient harm or negative effect related to patient hospitalization other than his disease process, and this also called hospital acquired conditions.

Continuous quality improvement: advanced process approach focused on efficiently improvement of the complex processes in order to improve patient safety.

Health: a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Healthcare quality improvement: the tools, process and strategies of maintaining patient safety to deliver the best care.

Inappropriateness: happened when the negative consequences more than the positive consequences of care.

Magnet hospital: concept reflects those hospitals fulfilling the requirements of the magnetism program, which is surveyed by the American Nurses Credentialing Center.

Misuse: the failure to deliver the planed care.

Nosocomial infection: hospital acquired infection.

Outcome quality: indicators reflect the end result of treatment and interventions, for example the actual number of patients who fall or develop bed sore as a result of hospitalization.

Overuse: delivering inappropriate care.

Patient-centeredness: considering patient needs, expectations and preferences to ensure delivering care upon to these needs, and actively involving the patient and his/her family in the care process.

Patient safety: prevent any potential harm or adverse events for hospitalized patient.

Process quality: indicators reflect what is actually done during the treatment process

Quality improvement: complicated phenomenon with many domains, affected by political, social, economical and cultural factors for satisfying a patient's need.

Quality indicator: the best tool for measuring and monitor the effectiveness and performance of care.

Quality of care: the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.

Structural quality: indicators used to measure the feature of care setting, for example, Resources (materials, facilities and human), staff qualifications and organizational structure.

Underuse: the failure of delivering necessary care.

Work environment: the organizational characteristics of a work setting that facilitate or constrain professional nursing practice.

LIST OF ABBREVIATIONS

ANCC	American Nurses Credentialing Center
CMS	Center of Medicare and Medicaid Standards
CQI	Continuous quality improvement
ENT	Ear, nose and throat treatment
IOM	Institute of Medicine
JCAHO	Joint Commission Accreditation of Healthcare Organization
JCIA	Joint Commission International Accreditation
KMO	Kaiser Meyer Olkin
MOH	Ministry of Health Malaysia
PES-NWI	Practice Environment Scale of the Nursing Work Index
TQM	Total quality management
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter discusses the background of the study, highlighting the gaps in improving the quality of care and patient safety, which in turn leads to the problem statement. This chapter also discusses the research questions and objectives, followed by the significance, scope and limitations of the study, as well as the organization of the thesis.

1.2 Background

During the last decade, the demand for healthcare services has significantly increased. Healthcare quality has become a national and international priority. The environment has rapidly changed within a short time period, creating a challenge for leaders to cope with environmental uncertainty. Managers in the healthcare industry are not the exception. They have to focus on the quality improvement in all its aspects to deliver efficient, timely, effective, patient-centered and safe healthcare services (IOM, 2003).

Managers face challenges in ensuring patient safety and improving the quality of healthcare. Many variables affect the performance of healthcare services and processes. Staff competency, leadership style, organizational culture, work environment, team cohesiveness, compliance with international standards, etc., are all considered as variables affecting the outcomes of healthcare.

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