



UNIVERSITI PUTRA MALAYSIA

**EFFECTIVENESS OF TOTAL QUALITY MANAGEMENT INTERVENTION
ON NURSING JOB PERFORMANCE AND COMMITMENT IN
GOVERNMENT HOSPITALS IN IRBID, JORDAN**

MAJDI MUSA MOHAMMAD AL ZOUBI

FPSK(p) 2019 38



**EFFECTIVENESS OF TOTAL QUALITY MANAGEMENT
INTERVENTION ON NURSING JOB PERFORMANCE AND
COMMITMENT IN GOVERNMENT HOSPITALS IN IRBID, JORDAN**

By

MAJDI MUSA MOHAMMAD AL ZOUBI

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

October 2019

COPYRIGHT

All material contained within the thesis, including without limitation text, logos, icons, photographs, and all other artwork, is copyright material of Universiti Putra Malaysia unless otherwise stated. Use may be made of any material contained within the thesis for non-commercial purposes from the copyright holder. Commercial use of material may only be made with the express, prior, written permission of Universiti Putra Malaysia.

Copyright © Universiti Putra Malaysia



DEDICATION

First and foremost, I would like to thank Allah (The Most Gracious) who gave me the will and power to complete this thesis. Furthermore, I dedicate this thesis to our first teacher, the Prophet Mohammed (Peace Be Upon Him) and to the soul of my father who I wanted him to be beside me for this successful moment.

Cordially, I would like to express my sincere thanks to Dr. Hayati Khadir Shahar for her unique guidance, support, advice, suggestions, hospitality and invaluable assistance. Moreover, I owe a great deal of gratitude to the staff members at the Department of Community Health at the Faculty of Medicine and health Sciences for their continuous support and help while using the faculty facilities to accomplish this project.

I would like to express my heartiest gratitude to my beloved wife; Dr. Braah Shaaboul for her devotion, support, encouragement and patience. Likewise, to my precious children, Mousa and Salma who deserve a special mention as they stayed without me for many months due to the commitment required. I thank also my mother and siblings for their invaluable support which has continuously enabled me to challenge myself and set higher standards in my work.

I would like to express my deepest gratitude to my close friends and all people who had exercised an immense understanding and unique assistance during the study. Their inspiration, constructive criticism and invaluable advice have helped me a lot to fulfill all the requirements of my study.

To everyone I say: جزاكم الله عني كل الخير Furthermore, my 'big thanks' go to many other people who have, in one way or the other, positive influences on my life. I pray Almighty Allah to continue to bless them. Amin.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

**EFFECTIVENESS OF TOTAL QUALITY MANAGEMENT
INTERVENTION ON NURSING JOB PERFORMANCE AND
COMMITMENT IN GOVERNMENT HOSPITALS IN IRBID, JORDAN**

By

MAJDI MUSA MOHAMMAD AL ZOUBI

October 2019

Chairman : Associate Professor Hayati Kadir Shahar, PhD
Faculty : Medicine and Health Sciences

Background: There is a consensus among hospitals management, health professionals, and policy makers that hospitals and nursing services from the government hospitals are lagging behind in terms of performance and good commitment due to their nurse's poor performance, and several studies have cited this current problem in Jordan. Total Quality Management implementation helps hospitals to identify and eliminate areas generating the most waste and to improve department workflows, thereby increasing overall service quality by using the strategies for quality improvement.

Objective: The aim of this study is to develop, implement and assess the effect of TQM intervention on nurse's Job performance and nurse's commitment among Jordanian nurses in Government hospitals.

Method: A quasi-experimental multiple time series was conducted with a control group in secondary hospitals within the Irbid Region for eight months starting from September 2017 and in the duration of nine months ending in June 2018. Two out of eight hospitals were selected, where participants one hospital was taken as an intervention group and the other hospital was considered as the control group. Stratification and a subsequent simple random sampling technique was utilized to select 70 respondents for each group. Pre-post intervention, and follow-up phases were conducted to determine the socio-demographics and nursing job performance and commitment. A multiple linear regression, one-way MANOVA, and repeated MANOVA and MANCOVA were utilized to analyze the data uses IBM SPSS 25.

Results: Out of 70 respondents in each group, 65 (93%) respondents in the control group and 67 (96%) respondents in the intervention group were remained and analyzed. There were no significant differences between the two groups (the control and intervention) on nurses' job performance and nurses' commitment.

A repeated measure MANOVA test for both groups revealed that the interaction between group and time was statistically significant ($F(4, 127) = 144.841$; $p < 0.001$; Wilk's $\Lambda = 0.180$; $\eta^2 = 0.820$) which means groups had a significantly different pattern over time regarding on job performance and commitment.

A repeated measure MANCOVA test for both groups across the timeframe showed that there were significant differences between the two groups (control and intervention) regarding nurses' job performance and nurses' commitment at 0.05 level of significance ($F_{(2,127)} = 320.724$; $p < 0.001$; Wilk's $\Lambda = 0.165$; $\eta^2 = 0.835$) and the overall effect of time was also significant for all dependent variables ($F_{(4,125)} = 36.879$; $p < 0.001$; Wilk's $\Lambda = 0.459$; $\eta^2 = 0.541$).

Conclusion: The educational intervention conducted in this study was found to be effective in enhancing nursing job performance among the sample of the study. The change in job performance was attributed to the enhanced commitment of respondents in the intervention group.

Keywords: TQM, educational intervention, nurses, commitment, job performance.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**KEBERKESANAN CAMPUR TANGAN PENGURUSAN KUALITI
MENYELURUH TERHADAP KOMITMEN DAN PRESTASI JURURAWAT
DI HOSPITAL-HOSPITAL KERAJAAN DI IRBID, JORDAN**

Oleh

MAJDI MUSA MOHAMMAD AL ZOUBI

Oktober 2019

Pengerusi : Profesor Madya Hayati Kadir Shahar, PhD
Fakulti : Perubatan dan Sains Kesihatan

Latar Belakang: Kebanyakan pihak dalam kalangan pengurusan hospital, ahli profesional kesihatan dan pembuat dasar setuju bahawa perkhidmatan hospital kerajaan adalah ketinggalan dari segi prestasi kerja dan komitmen yang baik disebabkan prestasi jururawat yang tidak memuaskan. Beberapa kajian terdahulu di Jordan juga telah mengutarakan permasalahan ini. Pelaksanaan Pengurusan Kualiti Menyeluruh dapat membantu perurusan hospital untuk mengenal pasti dan menghapuskan kawasan yang menghasilkan pembaziran paling banyak dan meningkatkan proses kerja jabatan, seterusnya meningkatkan kualiti perkhidmatan menyeluruh dengan menggunakan strategi peningkatan kualiti.

Objektif: Tujuan kajian ini adalah untuk membangunkan, melaksanakan dan menilai kesan intervensi TQM terhadap prestasi kerja dan komitmen jururawat dalam kalangan jururawat di hospital kerajaan di Jordan.

Kaedah: Kuasi-eskperimen jenis siri masa berganda telah dijalankan menggunakan kumpulan kawalan di hospital-hospital sekunder di Wilayah Irbid selama lapan bulan bermula dari September 2017 dan berakhir pada Jun 2018. Dua buah hospital dalam wilayah tersebut telah dipilih, di mana sebuah hospital diambil kira sebagai kumpulan intervensi, manakala sebuah hospital lagi dianggap sebagai kumpulan kawalan. Teknik stratifikasi dan persampelan rawak mudah telah digunakan untuk memilih 70 responden daripada setiap kumpulan. Intervensi pra-paska dan fasa susulan telah dijalankan untuk menentukan sosio demografi dan prestasi kerja serta komitmen jururawat. Regresi linear berganda, MANOVA sehalu, MANOVA berulang dan MANCOVA digunakan untuk menganalisis data dengan menggunakan IBM SPSS 25.

Keputusan: Sejumlah 65 (93%) responden dalam kumpulan kawalan dan 67 (96%) responden dalam kumpulan intervensi dikekalkan dan dianalisis daripada 70 responden bagi setiap kumpulan. Berdasarkan keputusan kajian, pada akhir masa kajian didapati tidak terdapat perbezaan yang ketara di antara kedua-dua kumpulan (kawalan dan intervensi) terhadap prestasi kerja dan komitmen jururawat .

Ujian MANOVA berulang ke atas kedua-dua kumpulan menunjukkan bahawa interaksi antara kumpulan dan masa adalah signifikan secara statistik ($F_{(4, 127)} = 144.841$; $p < 0.001$; Wilk $\Lambda = 0.180$; $\eta^2 = .820$). Hal ini menunjukkan bahawa setiap kumpulan mempunyai corak prestasi kerja dan komitmen jururawat yang jauh berbeza dari semasa ke semasa.

Ujian MANCOVA berulang bagi kedua-dua kumpulan sepanjang tempoh masa menunjukkan terdapat perbezaan yang signifikan di antara kedua-dua kumpulan (kawalan dan intervensi) dari sesi prestasi kerja dan komitmen jururawat pada tahap signifikan 0.05 ($F_{(2,127)} = 320.724$; $p < 0.001$; Wilk $\Lambda = 0.165$; $\eta^2 = 0.835$) dan kesan masa keseluruhan juga signifikan bagi semua pembolehubah bersandar ($F_{(4,125)} = 36.879$; $p < 0.001$; Wilk $\Lambda = 0.459$; $\eta^2 = 0.541$).

Kesimpulan: Campur tangan pendidikan yang dijalankan dalam kajian ini didapati berkesan dalam meningkatkan prestasi jururawat dalam kalangan sampel kajian. Perubahan dalam prestasi adalah disebabkan oleh peningkatan komitmen responden dalam kumpulan intervensi.

Kata kunci: TQM, campur tangan pendidikan, jururawat, komitmen kerja, prestasi.

ACKNOWLEDGEMENTS

Firstly, I would like to acknowledge my supervisor Associate Prof Dr. Hayati Kadir Shahar, for her continuous support, patience, motivation, and immense knowledge. Her guidance was very helpful while performing the research work and writing of the thesis. I could not have imagined having a better advisor and mentor for my Ph.D. studies.

Beside on it my supervisor, I would like to acknowledge the rest of my supervisory committee; Associate Prof. Dr Rosliza Abdul Manaf, and Dr Ahmad Azuhairi Ariffin, and Associate Prof Dr Zaid Mohammad Alhamdan, for their insightful comments and encouragement, but also for the hard question which incanted me to widen my research from various perspectives.

Special thanks to all staff in the department of community of health in the university, Assoc. Prof. Dato Dr. Faisal Ibrahim, Assoc. Prof Dr. Muhamad Hanafiah Juni and Assoc. Prof Dr Suriani Bint Ismail.

I certify that a Thesis Examination Committee has met on 3 October 2019 to conduct the final examination of Majdi Musa Mohammad Al Zoubi on his thesis entitled "Effectiveness of Total Quality Management Intervention on Nursing Job Performance and Commitment in Government Hospitals in Irbid, Jordan" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

Members of the Thesis Examination Committee were as follows:

Suriani binti Ismail, PhD

Associate Professor
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Chairman)

Soh Kim Lam, PhD

Associate Professor
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Internal Examiner)

Titi Rahmawati binti Hamedon, PhD

Senior Lecturer
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Internal Examiner)

Rizanda Machmud, PhD

Professor
Public Health and Community Medicine Department
Andalas University
Indonesia
(External Examiner)



NOR AZOWA IBRAHIM, PhD

Associate Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 6 December 2019

This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfillment of the requirement for the degree of Doctor of Philosophy. Member of the Thesis Examination Committee were as follows:

Hayati Kadir Shahar, PhD

Associate Professor
Faculty of Medicine and Health Science
Universiti Putra Malaysia
(Chairman)

Rosliza Binti Abdul Manaf, PhD

Associate Professor
Faculty of Medicine And Health Sciences
Universiti Putra Malaysia
(Member)

Ahmad Azuhairi Ariffin, PhD

Medical Lecturer
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Member)

Zaid Mohammad Alhamdan, PhD

Associate Professor
Faculty of Nursing
Jordan University of Science and Technology
Jordan
(Member)



ROBIAH BINTI YUNUS, PhD

Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 19 DEC 2019

Declaration by graduate student

I hereby confirm that:

- this thesis is my original work;
- quotations, illustrations and citations have been duly referenced;
- this thesis has not been submitted previously or concurrently for any other degree at any institutions;
- intellectual property from the thesis and copyright of thesis are fully-owned by Universiti Putra Malaysia, as according to the Universiti Putra Malaysia (Research) Rules 2012;
- written permission must be obtained from supervisor and the office of Deputy Vice-Chancellor (Research and innovation) before thesis is published (in the form of written, printed or in electronic form) including books, journals, modules, proceedings, popular writings, seminar papers, manuscripts, posters, reports, lecture notes, learning modules or any other materials as stated in the Universiti Putra Malaysia (Research) Rules 2012;
- there is no plagiarism or data falsification/fabrication in the thesis, and scholarly integrity is upheld as according to the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) and the Universiti Putra Malaysia (Research) Rules 2012. The thesis has undergone plagiarism detection software

Signature: _____

Date: _____

Name and Matric No: Majdi Mousa Mohammad Alzoubi, GS43282

Declaration by Members of Supervisory Committee

This is to confirm that:

- the research conducted and the writing of this thesis was under our supervision;
- supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) were adhered to.

Signature: _____
Name of Chairman
of Supervisory
Committee: Associate Professor Dr. Hayati Kadir Shahr

Signature: _____
Name of Member
of Supervisory
Committee: Associate Professor Dr. Rosliza Binti Abdul Manaf

Signature: _____
Name of Member
of Supervisory
Committee: Dr. Ahmad Azuhairi Ariffin

Signature: _____
Name of Member
of Supervisory
Committee: Associate Professor Dr. Zaid Mohammad Alhamdan

TABLE OF CONTENTS

	Page
ABSTRACT	i
ABSTRAK	iii
ACKNOWLEDGEMENTS	v
APPROVAL	vi
DECLARATION	viii
LIST OF TABLES	xiv
LIST OF FIGURES	xvi
LIST OF ABBREVIATIONS	xvii
CHAPTER	
1 INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	6
1.3 Significance of Study	9
1.4 Research Question	10
1.5 Research Objectives	11
1.5.1 General Objective	11
1.5.2 Specific Objectives	11
1.6 Research Hypothesis	12
2 LITERATURE REVIEW	13
2.1 Health context in Jordan	13
2.1.1 Health and demographic indicators in Jordan	15
2.1.2 Nursing services in Jordan	15
2.1.3 Nursing Education Programs in Jordan	17
2.1.3.1 Facts on the Baccalaureate Nursing Program in Jordan:	17
2.1.3.2 Profile of Midwives:	17
2.1.3.3 Associate Degree in Nursing	17
2.1.3.4 practical nurses	18
2.2 Nurse Performance	18
2.3 Nurse Commitment	21
2.4 Factors that influence Nurse Performance	24
2.4.1 Organizational Factors that influence Nurse Performance	25
2.4.2 Cognitive Factors that influence Nurse Performance	25
2.4.3 Physical Factors that influence Nurse Performance	26
2.5 Historical perspectives of Total Quality Management	28
2.6 Principles of Total Quality Management	30
2.6.1 Nurse Leader's	31
2.6.2 Customer Focus	31
2.6.3 Teamwork	32
2.6.4 Continuous Improvement	33
2.6.5 Education and Training	33

2.7	Tools of TQM	34
2.8	TQM Implementation within the Nursing Services	34
2.9	Total Quality Management / continuous quality management / 5S	36
2.9.1	5S-CQI (KAIZEN)-TQM in nursing services	36
2.9.2	Phases of Implementation 5S-KAIZEN-TQM	37
2.9.3	5S Concept and Principle in the context of Nursing Profession	37
2.9.4	KAIZEN Approach in Nursing Activities	39
2.9.5	Total Quality Management training	41
2.10	Systematic Reviews:	42
2.10.1	Background	42
2.10.2	Methods	44
2.10.3	Findings and Discussion	46
2.10.4	Conclusion and recommendations	64
2.11	Theoretical Framework	65
2.11.1	Contingency Theory	67
2.12	Conceptual Framework	71
3	RESEARCH METHODOLOGY	74
3.1	Study Location	74
3.2	Study Design	77
3.3	Study Flow	78
3.4	Study Population	80
3.5	Sampling Population	80
3.6	Sampling Frame and unit	80
3.6.1	Sampling Frame	80
3.6.2	Sampling Unit	80
3.7	Inclusion and Exclusion Criteria	80
3.7.1	Inclusion Criteria	80
3.7.2	Exclusion Criteria	81
3.8	Sample Size and unit of analysis	81
3.8.1	Sample Size	81
3.8.2	Unit of Analysis	83
3.9	Sampling Method and Respondent Recruitment	83
3.9.1	Sampling Methods and Respondents recruitment	84
3.9.2	Matching of the Control Group Respondents	86
3.10	Study Variables	87
3.10.1	Independent Variable	87
3.10.1.1	Intervention Module of Total Quality Management	87
3.10.1.2	Methods Used for Delivering the Intervention	89
3.10.2	Dependent Variables	90
3.10.2.1	Nurses' Job Performance	90
3.10.2.2	Nurses Commitment	90
3.10.3	Other variables	90
3.10.3.1	Demographic Data and Covariates "Respondents' Characteristics"	90

3.11	Study Instruments	90
3.11.1	Nurses performance questionnaire	91
3.11.2	Nurses Commitment Questionnaire	94
3.11.3	Questionnaire on Covariate	96
3.11.4	Development of the Questionnaire	96
3.11.5	Theoretical importance and existence of the construct	97
3.12	Quality control	98
3.12.1	Validity and Reliability of the Questionnaire	98
3.12.1.1	Face validity of questionnaire	98
3.12.1.2	Content validity	99
3.12.1.3	Construct validity (factor analysis)	100
3.12.1.4	Convergent Validity Commitment	105
3.12.1.5	Discriminant Validity	106
3.12.1.6	Reliability Analysisfor questionnaire	107
3.12.2	Validation of the Intervention	107
3.12.2.1	Face Validity and Content Validity	107
3.12.3	Reliability of the intervention module	108
3.12.4	Translation and Back-Translation	109
3.12.5	Educational Intervention Implementation	109
3.12.6	Adherence to Intervention	111
3.12.7	Missing Data and Pre-protocol	111
3.12.8	Blinding	112
3.12.9	Contamination	112
3.13	Data Collection	112
3.13.1	Data Collection of nursing commitment and job performance	113
3.14	Data Analysis	114
3.15	Ethical considerations	114
3.15.1	Ethical approval	114
4	RESULTS	115
4.1	Response Rate	115
4.2	Preliminary Tests of Assumptions for data analysis	115
4.2.1	Normality Test	115
4.2.2	Outliers	118
4.2.3	Homogeneity Test of Variance	119
4.2.4	Sphericity Test	119
4.2.5	Multi-collinearity and Singularity	120
4.3	Relationship between Socio-Demographic Variables and Research Variables(job performance and commitment)	121
4.4	Homogeneity of Regression Slopes	121
4.5	Demographic Variables of Control and Intervention Groups	122
4.6	Comparing between Control and Intervention Groups for Research Variables in Pre Test (at baseline)	123
4.7	Factors affecting on nurse's performance and nurse's commitment	124
4.7.1	Nurses job performance	124
4.7.2	Nurses commitment	124

4.8	Comparing between Control and Intervention Groups for nurses' job performance and nurses' commitment across the time without controlling variables	125
4.9	Comparing between Control and Intervention Groups for job performance and nurses' commitment across the time with controlling variables	130
5	DISCUSSION	135
5.1	Introduction	135
5.2	Participants' Characteristics	135
5.3	Difference in job performance	136
5.4	Differences in nursing commitment	140
5.5	Interventions' Effect on Nurse Commitment and Nurse Performance	143
5.6	Factors Predicting Nurse Commitment and Performance	147
5.7	Theory and Study Outcome (Nurse Commitment and Performance Outcome)	149
5.8	Implications of the Study	150
6	CONCLUSIONS AND RECOMMENDATIONS	152
6.1	Conclusions	152
6.2	Strengths and Limitations of the Study	153
6.3	Recommendations for Practices and Future Research	154
	REFERENCES	156
	APPENDICES	188
	BIODATA OF STUDENT	261
	LIST OF PUBLICATIONS	262

LIST OF TABLES

Table		Page
2.1	The number of hospitals and bed capacity by health sector in Jordan	14
2.2	Nurses by Selected Category and Health Sectors in Jordan, Year: 2013	16
2.3	Identification of Core TQM Predictors	47
2.4	Results of all relevant literatures to this study in this systematic review	49
3.1	List of governmental hospitals in Irbid region and their details	76
3.2	List of Two governmental hospitals in Irbid region and their details AlRamtha and Alraya hospital	78
3.3	Measure of job performance	92
3.4	Measurement of nurses' commitment	95
3.5	Number of retained and omitted items for each instrument in the questioner	100
3.6	Summary of questionnaire distribution for pilot study	100
3.7	Factor loadings based principal component analysis with Varimax rotation for 46 items related to nurses' job performance	103
3.8	Item's loading factor in final fitted measurement model of commitment	106
3.9	Correlation of latent variables and discriminant validity of commitment	106
3.10	Reliability of performance and commitment	107
3.11	Content validity of the intervention module n = 10	108
3.12	Changes in mean performance and commitment from pre- to post-test for the module	109
3.13	Criteria used to assess the lecturer during delivery of the lecture	110
3.14	Adherence of respondents to the educational intervention	111
3.15	Sequence of data collection and intervention	113
4.1	Response Rate in intervention and control groups at baseline and post interventions	115

4.2	Normality test result for all research variables in this study at pre and post-test.	117
4.3	Results for univariate outliers for two dependent variable	118
4.4	Levene's Test of Equality of Error Variances at Pre Test	119
4.5	Results for sphericity for all research variables in this study.	120
4.6	Summary of results for relationship between socio-demographic variables and research variables	121
4.7	Results of homogeneity of regression slope for two covariates	122
4.8	Descriptive statistics for demographic variables in both control and intervention	122
4.9	Summary of MACNOVA test result for comparison between groups at pre-test for nurses job performance and commitment	123
4.10	Result of univariate analysis for performance and commitment comparing between groups at pre-test stage.	123
4.11	Summary of MLR Analysis on nurse's job performance	124
4.12	Summary of MLR Analysis on nurse's commitment	125
4.13	Result Descriptive of Statistics for two group control and Intervention	126
4.14	Summary of RM-MANOVA results for compression between groups across the time	126
4.15	Summary of RM-ANOVA for all dependent variables (Univariate analysis)	127
4.16	Pairwise comparison across time for both control and intervention	128
4.17	Pairwise comparison between control and intervention at 3 time (pre-test and post-test and follow-up)	128
4.18	Summary of RM-MANCOVA results for comparing between groups across the time	131
4.19	Summary of RM-ANCOVA for all dependent variables (Univariate analysis)	132
4.20	Pairwise comparison across time for both control and intervention	132
4.21	Pairwise comparison between control and intervention at 3 times	133

LIST OF FIGURES

Figure	Page
2.1 5S Conceptual framework	39
2.2 Seven Wastes	40
2.3 Prisma flow chart	45
2.4 Conceptual Framework	73
3.1 Showing a map of Jordan	76
3.2 Flow diagram of enrolment, eligibility hospitals of the study	77
3.3 The study flow of two hospital intervention(AlRamtha) and	79
3.4 Study sampling method for intervention group	85
3.5 Study sampling method for control group	86
3.6 Training pattern from 5S to TQM	88
3.7 Implementation of TQM in health nursing services	89
3.8 Monte Carlo parallel analysis of nurses' job performance Scale	101
3.9 Measurement Model For commitment	105
3.10 The process of data collection on job performance and commitment during the three phases of the study	113
4.1 Correlation between two main variables	120
4.2 Level of job performance for intervention and control groups across tests	129
4.3 Level of nurses' commitment for intervention and control groups across tests	130
4.4 Adjusted level of job performance for intervention and control groups across tests	133
4.5 Adjusted level of nurses' commitment for intervention and control groups across tests	134

LIST OF ABBREVIATIONS

CFA	Confirmatory Factor Analysis
MANOVA	Multivariate Analysis of Variance
MANOCOVA	Multi Variate Analysis of Co-Variance
MENA	Middle East and North Africa
MLR	Multiple Linear Regression
CQI	Continuous Quality Improvement (CQI)
TQM	Total Quality Management
ICN	International Council of Nurses (ICN)
WHO	World Health Organization
MoHSW	Ministry of Health and Social Welfare, Tanzania
JMOH	Jordan Ministry of Health

CHAPTER 1

INTRODUCTION

1.1 Background

Globally, every nation values the health and well-being of its citizens and strives with every possible means to protect them from health challenges. This is because sound health forms part of the assessment of the standard of living of a country. In order to achieve this objective, each nation builds hospitals and employs medical personnel who are given responsibility of tackling any health challenges that may arise. However, provision of hospitals and employment of personnel alone cannot guarantee successful health care delivery, rather, the commitment and job performance of medical personnel, especially nurses, coupled with Continuous Quality Improvement (CQI), may be of greater benefit in actualising a better health care service delivery system. Sustained commitment and job performance can be achieved with the intervention of Total Quality Management and CQI. According to Al-Ali (2014), TQM/CQI is simultaneously a management philosophy and a management method.

Hospitals, as in other social places, are characterised by many performance targets, specialised personnel, and fine divisions of labour. Caring for patients is the main purpose of medical workers. Care quality depends on the calibre of employees, and the effective management of such employees (nurses) (Mosadeghrad, 2014). The success of hospital services depends on nurses as health employees, given that through their skills, knowledge, and competencies, nurses are instrumental to the accomplishment of organisational health goals (Ismail, Abdul-Halim, & Joarder, 2015). The survival of health care systems depends on nurses (Banibakr & Shafie, 2018). Enhancing the job performance of nurses cannot be over-emphasised, given that they are considered as crucial personnel in health care systems (Ismail, Majid, Zakaria, Abdullah, Hamzah, & Mukari, 2018).

Similarly, the provision of health care in a cost effective and quality manner is essential for the attainment of organizational health care goal. This hinges on effective job performance by nurses. Nurses' job performance constitutes a vital element in the health care system, due to the fact that nurses characterise important information in respect to the hospitals' strengths and weaknesses, thus it can also be a cause for the failure of the organisation (Banibakr & Shafie, 2018).

Job performance indicates the attainment of the patients' expectations and needs and constant enhancement of the quality process and activities of the organisation. It demands that organisations often need employees who are productive in their duties and even act beyond their call of duty, especially while handling critical tasks. According to Rana and Chopra (2015), employees who are committed make a serious distinction and difference in the aspect of innovation, competitiveness, performance, and the success of the organisational ultimately. Thus, organisations are implored to

ensure the development of knowledge by employees, and they should be devoted to promoting innovation, hence, giving them the opportunity to contribute the overall development of the organisation (Tan & Nasurdin, 2011).

Despite the importance and necessity of hospitals in the community, hospitals are now operating in an increasingly challenging (Paim, Travassos, Almeida, Bahia, & Macinko, 2011; Paim, Travassos, Almeida, Bahia, & Macinko, 2011), competitive, and dynamic environment. The need to promote hospitals' performance and also ensure high-quality nursing care calls for research-based solutions. In fact, the complex nature of the roles of hospital personnel has made it a well-established place for studying human behaviour. The poor performance of hospitals due to lack of commitment and substandard performance of personnel is a reason for concern (Manyisa & van Aswegen, 2017). There have been numerous cases of errors associated with poor nursing performance. For example Hermon and Williams (2013) found a high incidence of medication errors among nurses. Overall, research on nurses' commitment and performance is scanty in the developing countries, compared to investigations in developed nations (Omran & Obeidat, 2015).

Furthermore, today's health organisations are confronted with a myriad of challenges ranging from health services cost increase and increasing dependence in technology, to pressure and then to cost decrease and quality improvement (Aiken, Sermeus, Van den Heede, Sloane, Busse, McKee, Bruyneel, Rafferty, Griffiths, & Moreno-Casbas, 2012; McClellan & Rivlin, 2014), and satisfying patient's needs (Chang, Chen, & Lan, 2013). These are all major challenges that require the maintenance of high quality services (Chang *et al.*, 2013).

In the present society, health care system, according to Lifvergren (2013), is obviously and generally confronted with huge challenges, and reports of different kinds has shown that health care systems of today are not really sustainable (Moffat & Mercer, 2015; Orszag, 2011). The society is experiencing ageing population, and there is a rise in the number of patients suffering from different forms of illness that need broad specialist care and attention as well as extra resources. Also, expensive and new drugs with new ways of treatments are now available at an astronomical rate, thereby generating rate of expenditure for health care. From the economic point of view, the more and more the population proportion of the elderly one increases, the lesser the taxpayers' number. As posed by Alhamwan, Mat, and Muala (2015) and Farsi.Z .Dehghand-Nayeri, Negarandeh, and Broomand (2010) , the increasing shortage of health care professional in many countries is worrisome and disturbing.

Moreover, the health care systems are confronted with the decreasing resources from the society despite a rise in demand for a sound and high quality medical care. According to Lifvergren (2013) and Kumar, Garg, and Garg (2011), these factors have brought about growing health care expenditure and cost containment pressures. It is expected that health care systems provide more with less, considering the rapid changes in the needy populations to be attended to, and changes in the priorities of the health care (Mohrman, Shani, & Mccracken, 2012). As indicated in many reports, it

is quite difficult or impossible to evaluate the efficiency and the effectiveness of the health care system systems (Asandului, Roman, & Fatulescu, 2014; Smith, Capitolo, Quinn Griffin, & Fitzpatrick, 2012).

In some countries, given the challenges facing the health care sector, the stakeholders in the health system have been compelled to embrace a system capable of managing health care in an assessable and measurable manner with a view to offering high quality services, which is the main objective of the hospitals quality management programs(Chang, 2014). Consequent upon this, literature has suggested the Continuous Quality Improvement (CQI) program aspect of TQM as one of the ways of increasing the commitment and job performance of nurses, and invariably the hospital staffs at large (Kaplan, Brady, Dritz, Hooper, Linam, Froehle, & Margolis, 2010).

In the context of Jordan, arising from the regulations of the government, the initiative of the hospital management, and the influence of customers, quality management has become a crucial phenomenon in hospitals/healthcare organizations(Al-Ali, 2014). Hence, the impact of government as the major healthcare services provider has changed, and at the same time, the healthcare market is shifting from a services and oriented to a customer-oriented market simply because of the increasing impact of pressures from the patients and public at large. The situation of the thing is that the patients are becoming customers for the organizations in the healthcare sector. In other words, the patients are more likely a direct strategic partner who take part in the process of decision-making. According to Al-Ali (2014), changes in society, environment, and political policies also have significant influence on management in hospitals. Given this, there is need for quality management.

The literature recognizes nurses as the important workforce in the achievement of hospital success. Supporting this, Alhamwan *et al.* (2015) indicated that all over the world, nursing workplaces are the densest in the healthcare sector with US having more than 2 million, Japan having 1 million, and in Jordan 16000 registered nurses. Based on statistics, the Jordan total nursing workforce comprising nurses and midwives is 27,300. According to the International Council of Nurses (ICN) in 2002 and WHO in 2007, the acute shortage of nurses in the nursing workplace is a crisis (Kingma, 2007).

The quality of every nurse in the hospital hangs on the speed, skill, ease and accuracy in commitment and performance of certain nursing practice acts. Similarly, the nursing services meaning lies on the effectiveness and efficiency of the prevailing structure in the general hospital system. Nursing service quality, therefore, is considered as one of the fundamental necessities of every person. Until now, professionals in the field of nursing and health are trying to enhance their quality of profession, performance in handling the patients, commitment during the work, self, nursing devices, quality of nursing care and managerial capability (Matthews, 2012). The performance of the organization tends to be improved through an enhanced quality of care service. Having

a culture of quality and safety for patients is important for the attainment of an enhanced organizational performance in the hospital (alzoubi, 2019).

Nurses' commitment to their patients and institutions is crucial to the general performance and effectiveness of hospitals and health care systems as a whole (Oh & Chung, 2011). This is because nurses occupy a central place in the hospital by constituting more than 80% of health workers and 60% of nursing staff are engaged in hospitals (Al-Shdaifat, 2015). Nurses play a significant role in the implementation of any intervention programme introduced by any hospital. However, the subject of nurses commitment attracts little attention by researchers (Mrayyan & Al-Faouri, 2008). While the existing literature has linked nurses' commitment to many factors, some scholars posit that an unstable work history indicates absence of career commitment. Overall however, there has been no significant research in prior literature on nursing job performance (Al-Ahmadi, 2009). Thus, it is imperative to conduct research on the career commitment of nurses, especially in the context of Jordan, as this will lead to a better understanding of what motivate them.

Similarly, improving the productivity and job performance of nurses to ensure that health care is efficiently delivered is connected with management intervention (Mrayyan & Al-Faouri, 2008). As far as the resources of health systems are concern, nurses are the most essential. The effective job performance of any hospitals dependent on the motivation, skills and the knowledge of its employees individually. It is therefore important for employers to provide suitable intervention programmes that will guarantee that nursing performance meets the desired standard. However, despite the fact that the performance of nurses has been an area of medical research since a few decades, it has not been widely examined or studied (Al-Ahmadi, 2009; Massey, Chaboyer, & Anderson, 2017).

It has been argued by the scholars that intervention programmes such as TQM, particularly CQI, can enhance the commitment and performance of nursing staff. It is a mechanism that is capable of resolving and coping with all the problems or hindrances militating against the health organisation (Cummings & Worley, 2014). TQM is generally known and recognised as a tool continuous for quality improvement (Sallis, 2014), quality management, quality improvement, and total quality control (McClellan & Rivlin, 2014). According to Mrayyan and Al-Faouri (2008), there is a need for managerial intervention to enhance nurses' career commitment, in light of the fact that there is a relationship between low career commitment and the intention to leave not only the nursing profession but also the organisation itself (Flinkman, Leino-Kilpi, & Salanterä, 2010; Warshawsky & Havens, 2014)

The origin of TQM is traceable to the manufacturing sector, from where the concept has made a meaningful and successful transition to a wide range of industries in the private-sector. The achievement of this transition is premised on the development of new TQM models to account for crucial differences in the many sectors. However, the major aim of developing the models was to enhance the commercial products and services quality and these have not had the same chance of being tested rigorously in

the health care sector which deal with a broad range of welfare-based services. In order to install TQM successfully in the health care system, Al-Ali (2014) and El-Tohamy and Al Raoush, (2015) argue that the peculiar nature of the health organisations and their broader environments would have to be noted and seriously taken into consideration.

TQM is heralded as a new way to manage organisations. In medical parlance, TQM aims to embed orientation of quality in all processes and procedures in the delivery of health care services (Ministry of Health and Social Welfare (MoHSW), Tanzania, 2013). It is now widely used in the medical sector of many countries. Research done by Vituri and Évora (2015) on the literature on TQM in nursing administration, revealed that it has been fully implemented in some hospitals to manage nursing care, but very few intervention studies have been conducted. This highlights the necessity for clinical research in this area.

Previous research has indicated that the adoption or practice of TQM in an organisation has the capacity to improve the performance and commitment of not only the staff of the organisation, but also the organisation itself. TQM, with its 5S-Kaizen technique, is a participative, systematic management approach towards planning and implementing a continuous improvement process for an organisation (Wang, Chen, & Chen, 2012; Zu, Robbins, & Fredendall, 2010). Its major areas of focus are enhancing customer satisfaction, identifying organisational problems, commitment building, and promoting open and transparent decision-making among staff. On the one hand, the 5S approach is tailored towards the actualisation of TQM and stands for sort, set in order, shine, standardise, and sustain. The Kaizen aspect of TQM on the other hand, focuses on the philosophy of improvement within an organisation. It is regarded as the process of CQI through a non-stop process to improve the work environment and service standard to the highest quality, and as much as possible maintaining its convenience and user-friendliness (MHSW, Tanzania, 2013).

Discussing on the advantages of implementing TQM, Al-Ali (2014) declares that it will assist in improving the health care organisations financial status, and also get over numerous challenges such as shortage of manpower. Also, TQM tends to internally produce qualified medical personnel, bring about reduction in the number of complaints by the patients, and ultimately brings about a rise in efficiency-orientation. It will also help to boost the commitment and performance of nurses within the hospital, as a result of obtaining good feedback from patients who are satisfied with the services rendered to them (Al-Shdaifat, 2015).

Arising from the above discussion, this research, therefore, aims to design a TQM intervention model, with a specific emphasis on continuous quality improvement, and test its effects on nurses' commitment and performance in a Jordanian context.

1.2 Problem Statement

Literature has indicated that hospitals are confronted with many nursing challenges, which include medication errors, incorrect patient diagnoses, lower nursing time at patients' bedsides, patients falling down, health care-associated infections (nosocomial), and pressure ulcers (Hayajneh, Abualrub, & Almakhzoomy, 2010). In Jordan, nursing shortages serve as an impediment to the quality of care given to patients. Nurses in the country are leaving their jobs prior to attaining retirement age. Lack or absence of commitment may be accountable for this. As argued by the scholars (Alonso & O'Neill, 2009; Harrington & Heidkamp, 2013), employees normally abandon their organisations for many reasons. As one of the reasons, many scholars posit that organisational commitment is an important catalyst for employees turnover intention in many organizations and industries (Galletta, Portoghese, & Battistelli, 2011; Galletta, Rashid & Raja, 2011; Van Dyk & Coetzee, 2012) It has been established that some nurses in Jordan leave the country to work in Gulf countries simply because of the attainable better working conditions and of higher salaries in the countries. According to McHugh and Ma (2014) and Asegid, Belachew, and Yimam (2014), two factors comprising poor working conditions and unsupportive work environments are instrumental to the movement of nurses to other countries. Also, the potential rate of Jordanian nurses intending to leave the nursing profession is 18.4%, while the projected rate of turnover for RNs in the hospitals in Jordan is 36.6% (Abualrub, Omari, & Al-Zaru, 2009).

The role of nurses in the actualization of success of the hospitals cannot be underestimated because they represent a large proportion of health care organisations (Al-Shdaifat, 2015). The total population of Jordanian nurses is about 16,000, which translates in to 26 nurses and midwives for every 10,000 persons (Jmoh,2016). Nurse workforce outcomes can determine the quality of a hospital work environment, and hospitals that are rated as having an excellent performance by the patients indicated a greater working environment, higher satisfaction with management and lower burnout levels. Good nurse workforce outcomes meant that patients were treated with respect, listened to carefully, and given explanations in a clear manner(Aiken, Sermeus, Van den Heede, Sloane, Busse, McKee, Bruyneel, Rafferty, Griffiths, & Moreno-Casbas, 2012).

The problems confronting hospitals today are traceable to lack in three factors, namely, nurses' commitment, performance, and CQI. Despite the importance of nurses in a hospital setting, and the problems confronting hospitals, especially in Jordan, research on nurses' commitment, performance and CQI attracts little attention of researchers (AbuAlRub & AL-Zaru, 2008). A comprehensive survey of literature reveals the scantiness of research on these aspects in the Jordanian context.

Enhancing the commitment of nurses is paramount to the accomplishment of overall performance of hospitals and the establishment of effective health care systems (Awases, Bezuidenhout, & Roos, 2013). In health care settings where nurses' commitment is lacking, the outcomes would be detrimental to the system. Jafaraghaee,

Mehrdad, and Parvizy (2014) posit that lack of commitment in hospital employees such as nurses prevent them from discharging their duties to the best of their abilities during their day-to-day routines in the hospital. Commitment and performance are closely related, as committed nurses will demonstrate innovativeness or creativity which are reflection of extra-role behaviours.

Furthermore, nursing performance is a strong and long-standing factor influencing the quality of services rendered to the admitted patients in the hospitals. This, notwithstanding, literature has shown that there is a paucity of information on nurses' performance levels in Jordan.

It has been signified that workers' crises and work overload are some of the main causes of burnout and low performance in hospitals (Manzano-García & Ayala, 2017) . Experiencing violence and dealing with others' pain and disease create continuous stress for nurses. This serves as a major bane, affecting the performance of nurses in most hospitals in Jordan. Thus, there is need for serious research attention to address the problem in the context of Jordan

Moreover, an aging workforce is another cause of increased concern for hospital management with regard to enhanced performance, since cognitive, perceptual, and physical capabilities drop with age. Mainly because of the shortage of nurses, the nursing workforce is overwhelmed with responsibilities for large numbers of patients, high nursing workloads and long hours of duty. For example, it has been shown that most nurses work for 12 hours or more in a day, and rarely get respite for meals or breaks (Stimpfel, Sloane, & Aiken, 2012).

In the same vein, there is an increasing consensus that nurses in the hospital must not be assigned to more than four to six patients or one to two in case of high-acute patients since this acute is seen as patients with severe illness (Curtin, 2012). Intensifications in such nursing workload can aggravate the risk of the low nurse performance, and lack of commitment to work, job dissatisfaction and exhaustion, which can also add to shortage of nurses (Dall'Ora, Griffiths, Ball, Simon, & Aiken, 2015).

Mrayyan and Al-Faouri (2008) posit that the commitment and performance of nurses can be enhanced with the aid of intervention programmes. They stated that research should continue to focus on factors that can enhance nurses' commitment towards their work as an attempt to improve quality of care and to control escalating costs. Understanding the factors that predict nurses' commitment towards their work is paramount for developing quality health care services, and such factors should be focused on and incorporated into organisational intervention strategies. They also argued that nurses are among the most important resources of health systems. The performance of a health organisation depends on the knowledge, skills and motivation of its individual employees. It is therefore important for employers to provide suitable intervention programmes that will guarantee that the performances of nurses meet the desired standards.

Hospitals in Jordan, like other nations, face many quality management obstacles that impinge on the effective working and the establishment of quality services. In a study A'aqoulah, Kuyini, Ajlouni, Saif, and Raoush, (2016) found that the quality management improvement obstacles facing hospitals in Jordan contain absence of rewards for staff, inadequate specialist delegation, absence of staff training, poor staff motivation, inadequate material resources, and insufficient financial provisions to sustain quality management system in Jordanian hospitals. These quality management obstacles necessity to be resolved in order for the hospitals to purpose effectively and improved quality services (A'aqoulah, Kuyini, & Ajlouni, 2016).

Based on this, researchers have been studying TQM and its relationship to performance commitment in nursing services. To this end, very few studies have addressed certain TQM principles, particularly its CQI aspect, in nursing services such as teamwork, continuous improvement, leadership, education and training in relation to performance and commitment. It is generally believed that higher levels of TQM implementation will result in higher levels of nurse performance and complete commitment to the tasks appointed to them (El-Tohamy & Al Raoush, 2015)

According to Cummings and Woriey (2014), the CQI aspect of TQM is capable of coping with all of the problems facing hospitals, and determining all the problems that beset health organisations.. TQM is generally recognized for continuous quality improvement, quality management, and total quality control (McClellan & Rivlin, 2014). From medical perspective and health care service delivery generally, the aim of TQM is to incorporate quality-orientation in all procedures and processes (Ministry of Health and Social Welfare (MHSW), Tanzania, 2013).

Also, Al-Shdaifat (2015) affirmed that the implementation of TQM and the CQI principles is poorly done in Jordanian hospitals, and the most commonly and widely principle implemented is focused on the patients. It is argued further by the author that the implementation of TQM principles is more in the private sector than the public sector. The study found no significant difference related to socio-demographic variables (age, gender, experience, education level, type of ward and attained to quality management program) in hospitals where there is no quality department.

In the Arab World generally, CQI as an integral part of TQM is a new phenomenon and most studies on TQM in this context have been theoretical, descriptive, and speculative (Al-Marri, Moneim M. Baheeg Ahmed, & Zairi, 2007). Few medical studies have examined the causal association between TQM and performance, and inconclusive findings were arrived at (Al Dhaafri, Yusoff, & Al Swidi, 2014). The conclusion from many studies is that TQM has a positive significant association with organisational performance (Zehir, Ertosun, Zehir, & Müceldilli, 2012; Zehir, Ertosun, Zehir, Müceldilli, & Sciences, 2012). However, the finding emanating from other studies is that there is no significant link between TQM and performance. Notwithstanding, other studies still found that sometimes TQM can negatively influence performance, thus the findings are mixed (Kober, Subraamanniam, & Watson, 2012; Koc, 2011; Sadikoglu & Olcay, 2014) .

Arising from this discussion therefore, this study aims at examining the effectiveness of the CQI aspect of TQM interventions on nursing performance and commitment in government hospitals in Irbid, Jordan. To the best knowledge of the researcher, this study might perhaps be the first interventional study of its kind in Jordan that will assess the effect of CQI intervention and implementation on nursing performance and commitment, together with some control variables.

1.3 Significance of Study

Drawing from the discussion in the previous sections, this study intends to assess the impact of TQM intervention and implementation on nurses' commitment and performance, with an aim to show the ways to enhance the quality of health care and improvement initiatives in future. Aside from the fact that the overall findings and outcomes of this study will be added to the existing literature, and significantly contribute to the body of knowledge theoretically and practically, its benefits can be classified into three categories: to nurses, hospitals, and Jordan as a whole.

The benefits to both the nurses and hospitals of a TQM implementation, with the application of 5S-KAIZEN, are definite: It allows all the workers in an organisation to carry out tasks to the best of their abilities and to attain good quality. It paves the way for effectiveness and efficiency because the application of the 5S methodology: that is to sort, set, shine, standardise, sustain; and continuous improvement is an assured way to accomplish appreciable improvements in performance and commitment. It also helps to boost operational productivity and safeguard the organisation from some wasteful expenses. In the long run, this provides more benefits to customers by way of value of service quality and prices, which automatically improves customer satisfaction.

Furthermore, the implementation of TQM also guarantees nurse performance and commitment when it comes to execution of tasks, and patient satisfaction. Similarly, implementation of TQM helps reduce the overall cost of production by 'sole sourcing', a method by which overall costs are shrunk by reducing the number of suppliers used by the organisation, and providing the chosen suppliers with essential technology and training. The effective running of an operation will then be determined by how effectively suppliers can meet with the demands of the organisation.

The implementation of TQM practices also decreases patient waiting time. Meanwhile, for nurses, it helps to improve performance and also reduce workload. This intervention is significant because it enables hospitals to reduce the burden of cost and equipment consumption, as well as accomplish organisational missions or goals. Previous studies in Arab countries, and from the global view, recommended the implementation and examination of the impact of TQM practices in improving nurse performance and nurse commitment to enhance patient satisfaction in hospitals (Alaraki, 2014).

Also, TQM assists in enhancing medical services quality, prevent potential nursing errors, and reduce medical services cost. It also fosters performance improvement by providing a collaborative approach to patient-centred care focussed on meliorating performance, safety, commitment, and patient results, and on identifying and enhancing best practices among nurses.

Furthermore, TQM implementation in hospitals make it possible to easily adapt to health sector environment changes, realise flexibility in solving the operational problem of nursing and optimal utilisation of opportunities. This brings about a great impact on the overall commitment and performance of nurses, which can only be achieved through teamwork among the nurses and hospitals directors, dedicated sustenance from top leadership and management, training and education involvement and empowerment of employees, customer focus, process management and continuous improvement initiatives.

Among the most important benefits of the present study is an increase in the level of insight into patients, pertaining to the issue of their satisfaction with hospitals' services to the community. The TQM practice implementation to measure and analyse the performance and commitment of nurses in Jordanian government hospitals is conceived as another benefit to the community. The current study may also provide empirical evidence to health care service providers, managers and government bodies of Jordanian hospitals, to embark on a generalised TQM practice to boost nursing performance with full commitment towards their appointed tasks, and thereby, improve patients' satisfaction rates in Jordanian government hospitals. Globally, the results of the current research will help hospitals and researchers to meliorate services related to good performance and work commitment among nurses.

Also, this study's findings tend to be of practically beneficial to the hospital practitioners, management, and other decision makers in improving the performance of nurses. Additionally, this research can be used as a model capable of being followed by Jordanian hospitals and any other hospital in other country. Finally, this research can be used as a base for creating certain rules and policies in the Jordanian government, with regard to practicing and applying the model of this study, to enhance the development, growth, excellence, and performance of their health care service organisations.

1.4 Research Question

- What are the differences of participant characteristics in social demographic variables (gender, age, education, and years of experience) between groups at baseline?
- What are the predicted variable of nurse's commitment and nurse's job performance?
- What are the differences in the level of nurse's commitment and nurse's job performance between and within intervention and control hospitals in

Jordanian Ministry of Health secondary hospitals at baseline, one month and six months after intervention in the Irbid, Jordan region?

- What are the differences in the level of nurse's commitment and nurse's job performance between and within intervention and control hospitals in Jordanian Ministry of Health secondary hospitals at baseline, one month and six months after intervention while controlling other variables in the Irbid, Jordan region?

1.5 Research Objectives

1.5.1 General Objective

In general, the aim of this study is to develop, implement and evaluate the effect of TQM intervention on the job performance and commitment of nurses in government hospitals in Jordan.

1.5.2 Specific Objectives

- To determine the differences of participant characteristics between groups at baseline in:
 - I. nursing commitment
 - II. nursing performance
- To determine the predictor variables of change in nursing commitment and job performance.
- To develop and implement TQM intervention and analyse its influence on nurse's job performance and commitment in Jordanian Ministry of Health secondary hospitals.
- To determine the influence of social demographic variables (gender, age, education, and years of experience) on nurses performance and commitment in Jordanian Ministry of Health tertiary hospitals.
- To determine the level of nurses' commitment and job performance between and within implementation and control hospitals in Jordanian Ministry of Health secondary hospitals before intervention, one month after intervention, and six months after intervention.
- To determine the level of nurse commitment and job performance between and within implementation and control hospitals in Jordanian Ministry of Health secondary hospitals before intervention, one month after intervention, and six months after intervention, while controlling other variables.

1.6 Research Hypothesis

- Social demographic variables (gender, age, education, and years of experience) have a significant influence on the effectiveness of TQM implementation on nurse job performance and nurse commitment.
- There is a significant difference in the level of nurse performance between and within intervention and control hospitals in Jordanian Ministry of Health tertiary hospitals before intervention, one month and six months after intervention.
- There is a significant difference in the level of nurse commitment between and within intervention and control hospitals in Jordanian Ministry of Health tertiary hospitals before intervention, one month and six months after intervention.



REFERENCES

- A'qoulah, A., Kuyini, A. B., Ajlouni, M. T., Saif, N., & Al-Raoush, A. (2016). Staff Perceptions of Obstacles to Quality Management Systems in Low-and High-Performing Hospitals in Jordan. *International Journal of Business and Management, 11*(2), 232-240.
- Abadi, I., Haming, M., Baharuddin, S., & Mahmud, A. (2018). A structural model of total quality management, kaizen, operational performance on service quality and patient satisfaction. *Archives of Business Research, 6*(11), 48-60.
- Abdel Khalek El-Sherbiny, N., Younis Elsary, A., & H Ibrahim, E. (2017). Application of the 5S-KAIZEN Approach in Improving the Productivity and Quality of the Healthcare System: An Operational Research. *Journal of Patient Safety Quality Improvement, 5*(4), 594-600.
- Abdel-Ghany, M. (2014). Workplace Characteristics, Job Satisfaction and Organizational Commitment of Extension Personnel in the New Valley Governorate. *Journal of Agricultural Economics and Social Sciences, 5*(6), 961-975.
- AbuAlRub, R., Omari, F., & Al-Zaru, I. (2009). Support, satisfaction and retention among Jordanian nurses in private and public hospitals. *International Nursing Review, 56*(3), 326-332.
- AbuAlRub, R. F., & AL-Zaru, I. M. (2008). Job stress, recognition, job performance and intention to stay at work among Jordanian hospital nurses. *Journal of Nursing Management, 16*(3), 227-236.
- Adami, C., Ofria, C., & Collier, T. C. (2000). Evolution of biological complexity. *Proceedings of the National Academy of Sciences, 97*(9), 4463-4468.
- Agar, C. C., & Beduk, A. (2013). *Experimental analysis of organizational commitment within the scope of downsizing threat and empowerment opportunity*. Paper presented at the International Conference on Economic and Social Studies. Selcuk University, Turkey.
- Agriesti-Johnson, C., & Broski, D. (1982). Job satisfaction of dietitians in the United States. *Journal of the American Dietetic Association, 81*(5), 555-559.
- Ahmad, M., Zakuan, N., Jusoh, A., & Takala, J. (2012). Relationship of TQM and business performance with mediators of SPC, lean production and TPM. *Procedia-Social Behavioral Sciences, 65*(2012), 186-191.
- Aiken, L. H., Sermeus, W., Van den Heede, K., Sloane, D. M., Busse, R., McKee, M., . . . Moreno-Casbas, M. T. (2012). Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *British Medical Journal, 344*, e1717.

- Ajlouni, M. (2011). Jordan Health System Profile: Report Submitted to WHO. *EMR*, August.
- Al Dhaafri, H. S., Yusoff, R. Z. B., & Al Swidi, A. K. (2014). The relationship between enterprise resource planning, total quality management, organizational excellence, and organizational performance-the mediating role of total quality management and organizational excellence. *Asian Social Science*, **10**(14), 158-162.
- Al-Ahmadi, H. (2009). Factors affecting performance of hospital nurses in Riyadh Region, Saudi Arabia. *International journal of health care quality assurance*, **22**(1), 40-54.
- Al-Ali, A. M. (2014, January). Developing a total quality management framework for healthcare organizations. In *Proceedings of the 2014 International Conference on Industrial Engineering and Operations Management*, January 7 – 9, Jordan www.iieom.org
- Al-Hussami, M. (2009). Predictors of nurses' commitment to health care organisations. *Australian Journal of Advanced Nursing, The*, **26**(4), 36-45.
- Al-Marri, K., Moneim M. Baheeg Ahmed, A., & Zairi, M. (2007). Excellence in service: an empirical study of the UAE banking sector. *International Journal of Quality & Reliability Management*, **24**(2), 164-176.
- Al-Shdaifat, E. A. (2015). Implementation of total quality management in hospitals. *Journal of Taibah University Medical Sciences*, **10**(4), 461-466.
- Al-Swidi, A. K., & Mahmood, R. (2011). Fostering the performance of banks through Total Quality Management (TQM) Practices: A bank branches perspective. *European Journal of Social Sciences*, **19**(2), 268-285.
- Al-Swidi, A. K., & Mahmood, R. (2011). Fostering the performance of banks through total quality management (tqm) practices: A bank branches perspective. *European Journal of Social Sciences*, **19**(2), 268-285.
- Alaraki, M. S. (2014). The impact of critical total quality management practices on hospital performance in the ministry of health hospitals in Saudi Arabia. *Quality Management in Healthcare*, **23**(1), 59-63.
- Alasad, J. A., & Ahmad, M. M. (2003). Patients' satisfaction with nursing care in Jordan. *International Journal of Health Care Quality Assurance*, **16**(6), 279-285.
- Alexander, K. (2013). *Facilities management: theory and practice*: Routledge.
- Alhamwan, M., Mat, N. B., & Muala, I. A. (2015). The impact of organizational factors on nurses turnover intention behavior at public hospitals in Jordan: How does leadership, career advancement and pay-level influence the turnover intention behavior among nurses. *J. Mgmt. & Sustainability*, **5**(2), 154-161.

- Ali, K. A. M., & Alolayyan, M. N. (2013). The impact of total quality management (TQM) on the hospital's performance: an empirical research. *International Journal of Services and Operations Management*, *15*(4), 482-506.
- Alkhenizan, A., & Shaw, C. (2011). Impact of accreditation on the quality of healthcare services: a systematic review of the literature. *Annals of Saudi Medicine*, *31*(4), 407-417.
- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, *63*(1), 1-18.
- Almorsy, L., & Khalifa, M. (2016, July). Lean Six Sigma in Health Care: Improving Utilization and Reducing Waste. In *ICIMTH* (pp. 194-197).
- Alonso, A. D., & O'Neill, M. A. (2009). Staffing issues among small hospitality businesses: A college town case. *International Journal of Hospitality Management*, *28*(4), 573-578.
- Alzoubi, M. M., Hayati, K., Rosliza, A., Ahmad, A., & Al-Hamdan, Z. (2018). Total Quality Management Intervention for Enhancing Nursing Commitment and Performance in Jordanian Hospital: Protocol of a Quasi-Experimental Study. *International Journal of Advanced Scientific Research Development*, *5*(10), 1-12.
- Alzoubi, M. M., Hayati, K. S., Rosliza, A. M., Ahmad, A. A., & Al-Hamdan, Z. M. (2019). Total quality management in the health-care context: integrating the literature and directing future research. *Risk management and healthcare policy*, *12*,1 (167-179)
- Anderson, J. C., Rungtusanatham, M., & Schroeder, R. G. (1994). A theory of quality management underlying the Deming management method. *Academy of Management Review*, *19*(3), 472-509.
- Antunes, M., & Sfakiotakis, E. (2000). Effect of high temperature stress on ethylene biosynthesis, respiration and ripening of 'Hayward' kiwifruit. *Postharvest Biology and Technology*, *20*(3), 251-259.
- Aquilani, B., Silvestri, C., Ioppolo, G., & Ruggieri, A. (2018). The challenging transition to bio-economies: Towards a new framework integrating corporate sustainability and value co-creation. *Journal of Cleaner Production*, *172*(1), 4001-4009.
- Aquilani, B., Silvestri, C., Ruggieri, A., & Gatti, C. (2017). A systematic literature review on total quality management critical success factors and the identification of new avenues of research. *The TQM Journal*, *29*(1), 184-213.

- Arumugam, V. C., Mojtahedzadeh, R., & Malarvizhi, C. A. (2011). Critical success factors of total quality management and their impact on performance of Iranian Automotive Industry. In *International Conference on Innovation, Management and Service* (Vol. 14, No. 2, pp. 312-316).
- Arunachalam, T., & Palanichamy, Y. (2017). Does the soft aspects of TQM influence job satisfaction and commitment? An empirical analysis. *The TQM Journal*, **29**(2), 385-402.
- Asandului, L., Roman, M., & Fatulescu, P. (2014). The efficiency of healthcare systems in Europe: A data envelopment analysis approach. *Procedia Economics Finance*, **10**(2014), 261-268.
- Asegid, A., Belachew, T., & Yimam, E. (2014). Factors influencing job satisfaction and anticipated turnover among nurses in Sidama zone public health facilities, South Ethiopia. *Nursing Research and Practice*, **1**(3)1-24.
- Asif, M., Awan, M. U., Khan, M. K., & Ahmad, N. (2013). A model for total quality management in higher education. *Quality & Quantity*, **1** (47)1883–1904.
- Askarian, M., Heidarpour, P., & Assadian, O. (2010). A total quality management approach to healthcare waste management in Namazi Hospital, Iran. *Waste Management*, **30**(11), 2321-2326.
- Aspden, P., Wolcott, J., Bootman, J. L., & Cronenwett, L. R. (2007). Committee on identifying and preventing medication errors. *Preventing Medication Errors: Quality Chasm Series*, **21**(6) 1269-1272.
- Awases, M. H., Bezuidenhout, M. C., & Roos, J. H. (2013). Factors affecting the performance of professional nurses in Namibia. *Curationis*, **36**(1), 1-8.
- Bader, M. K., Palmer, S., Stalcup, C., & Shaver, T. (2003). Using a FOCUS-PDCA quality improvement model for applying the severe traumatic brain injury guidelines to practice: process and outcomes. *Evidence-Based Nursing*, **6**(1), 6-8.
- BAE, S. H. (2011). Assessing the relationships between nurse working conditions and patient outcomes: systematic literature review. *Journal of Nursing Management*, **19**(6), 700-713.
- Banibakr, A. A., & Shafie, Z. M. (2018). Strategies to Improve Nurses Job Performance in Jordan. *Scholars Journal of Applied Medical Sciences*, **6**(4), 1588-1594.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management research*, **17**(1), 99-120.
- Barney, J. B. (1986). Organizational culture: can it be a source of sustained competitive advantage? *Academy of Management Review*, **11**(3), 656-665.

- Bellé, N. (2013). Leading to make a difference: A field experiment on the performance effects of transformational leadership, perceived social impact, and public service motivation. *Journal of Public Administration Research and Theory*, 24(1), 109-136.
- Bemowski, K. (1992). The quality glossary. *Quality Progress*, 25(2), 18-19.
- Bergman, B., & Klefsjo, B. (2010). *Quality from customer needs to customer satisfaction*: Studentlitteratur AB.
- Berwick, D. M. (1989). Continuous improvement as an ideal in health care. In: Mass Medical Soc.
- Bluman, A. (2011). *Elementary Statistics: A Step By Step Approach*. seventh edition Sim Valley, CA, United States, Cram101.
- Bon, A. T., & Mustafa, E. M. (2013). Impact of total quality management on innovation in service organizations: Literature review and new conceptual framework. *Procedia Engineering*, 53, 516-529.
- Bon, A. T., & Mustafa, E. M. (2014). Impact of total quality management-based people management practices on administrative innovation in service smes. *Middle-East Journal of Scientific Research*, 19(9), 1162-1168.
- Bonechi, L., Carmignani, G., & Mirandola, R. (2004). *La gestione della qualità nelle organizzazioni-dalla conformità all'eccellenza gestionale*: Edizioni Plus srl.
- Brace, N., Kemp, R., & Snelgar, R. (2006). *SPSS for psychologists: A guide to data analysis using SPSS for Windows (3rd ed.)*. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Brislin, R. W. (1980). Translation and content analysis of oral and written materials. *Methodology*, 122(3)389-444..
- Brooks, C., Chavez, O., Tritz, J., & Teasley, S. (2015). Reducing selection bias in quasi-experimental educational studies. Paper presented at the Proceedings of the fifth international conference on learning analytics and knowledge, 5(4) 295-299.
- Brunetto, Y., Farr-Wharton, R., & Shacklock, K. (2012). Communication, training, well-being, and commitment across nurse generations. *Nursing outlook*, 60(1), 7-15.
- Burns, T., & Stalker, G. (1961). *GM (1961) The management of innovation*. London. Tavistock Publ.
- Burton, R. M., Obel, B., Hunter, S., Søndergaard, M., & Døjbak, D. (1998). *Strategic organizational diagnosis and design: Developing theory for application*: United States, Springer Science & Business Media.

- Byrady germain, p., & Cummings, G. G. (2010). The influence of nursing leadership on nurse performance: a systematic literature review. *Journal of Nursing Management*, *18*(4), 425-439.
- Calugi, S., Ricca, V., Castellini, G., Sauro, C. L., Ruocco, A., Chignola, E., . . . Dalle Grave, R. (2015). The eating disorder examination: reliability and validity of the Italian version. *Eating Weight Disorders-Studies on Anorexia, Bulimia Obesity*, *20*(4), 505-511.
- Carayon, P., & Alvarado, C. J. (2007). Workload and patient safety among critical care nurses. *Critical Care Nursing Clinics of North America*, *19*(2), 121-129.
- Carlos Pinho, J. (2008). TQM and performance in small medium enterprises: The mediating effect of customer orientation and innovation. *International Journal of Quality Reliability Management*, *25*(3), 256-275.
- Carman, K. L., Dardess, P., Maurer, M., Sofaer, S., Adams, K., Bechtel, C., & Sweeney, J. (2013). Patient and family engagement: a framework for understanding the elements and developing interventions and policies. *Health affairs*, *32*(2), 223-231.
- Carmona-Márquez, F. J., Leal-Millán, A. G., Vázquez-Sánchez, A. E., Leal-Rodríguez, A. L., & Eldridge, S. (2016). TQM and Business Success. *International Journal of Quality Reliability Management*, *33*(3), 361-379.
- Cartin, T. J. (1993). Principles and Practices of TQM, USA, ASQ Quality Press.
- Chan, Z. C., Tam, W. S., Lung, M. K., Wong, W. Y., & Chau, C. W. (2013). A systematic literature review of nurse shortage and the intention to leave. *Journal of Nursing Management*, *21*(4), 605-613.
- Chang, C.-S., Chen, S.-Y., & Lan, Y.-T. (2013a). Service quality, trust, and patient satisfaction in interpersonal-based medical service encounters. *BMC Health Services Research*, *13*(1), 1.
- Chang, S.-O., Cho, K.-H., Kim, I.-A., Lee, S.-J., & Seomun, G. (2006). The relation between self-leadership and outcome of nursing practice. *Journal of Korean Academy of Nursing Administration*, *12*(1), 151-158.
- Chang, T. H. (2014). Fuzzy vikor method: a case study of the hospital service evaluation in Taiwan. *Information Sciences*, *271*(1), 196-212.
- Choi, J.-Y., Kim, E.-K., & Kim, S. Y. (2014). Effects of empowerment and job satisfaction on nursing performance of clinical nurses. *Journal of Korean Academy of Nursing Administration*, *20*(4), 426-436.
- Chong, Y.K.(1998) Evaluation of TQM Performance and Organizational Management Effectiveness for Foodservice and Clinical Nutrition Service Management in Hospital Settings (Phd thesis). University of Missouri, Columbia, United States.

- Chong, Y., Unklesbay, N., & Dowdy, R. (2000). Clinical nutrition and foodservice personnel in teaching hospitals have different perceptions of total quality management performance. *Journal of the American Dietetic Association*, *100*(9), 1044-1049.
- Cohen, J. (1992). Statistical power analysis. *Current Directions in Psychological Science*, Sage Journals *1*(3), 98-101.
- Collis, D. J. (1994). Research note: how valuable are organizational capabilities?. *Strategic Management Journal*, *15*(S1), 143-152.
- Corredor, P., & Goñi, S. (2010). Quality awards and performance: is there a relationship? *The TQM Journal*, *22*(5), 529-538.
- Cortese, C. G., Colombo, L., & Ghislieri, C. (2010). Determinants of nurses' job satisfaction: the role of work-family conflict, job demand, emotional charge and social support. *Journal of Nursing Management*, *18*(1), 35-43.
- Crandall, W., Kappelman, M. D., Colletti, R. B., Leibowitz, I., Grunow, J. E., Ali, S., ... & Del Rosario, F. (2010). ImproveCareNow: the development of a pediatric inflammatory bowel disease improvement network. *Inflammatory Bowel Diseases*, *17*(1), 450-457.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Crêteur, M., & Pochet, Y. (2002). Organizational design and hospital performance. Louvain School of Management Research Institute, Working Paper, <http://www.uclouvain.be/cps/ucl/doc/iag/documents/WP51creteur.pdf>.
- Croitoru, A. (2012). Schumpeter, JA, 1934 (2008), The theory of economic development: An inquiry into profits, capital, credit, interest and the business cycle. *Journal of Comparative Research in Anthropology and Sociology*, *3*(02), 137-148.
- Crosby, P. (1979). *Quality Is Free*. New York: McGraw-Hill.
- Crosby, P. B. (1992). *Completeness: Quality for the 21st century*: Penguin.
- Cummings, T. G., & Worley, C. G. (2014). *Organization Development and Change*: Cengage learning. United States, Cengage Learning.
- Curtin, L. L. (2003). An integrated analysis of nurse staffing and related variables: Effects on patient outcomes. *Online Journal of Issues in Nursing*, *8*(3), 118.
- Curtin, N. J. (2012). DNA repair dysregulation from cancer driver to therapeutic target. *Nature Reviews Cancer*, *12*(12), 801.

- Dabic, M., Cvijanović, V., & González-Loureiro, M. (2011). Keynesian, post-Keynesian versus Schumpeterian, neo-Schumpeterian: An integrated approach to the innovation theory. *Management Decision*, **49**(2), 195-207.
- Dale, B. G., Boaden, R. J., and Lascelles, D. M.,(1994), 'Levels of total quality management adoption' managing quality edited by dale, b.g.), New York,US, Prentice Hal.
- Dall'Ora, C., Griffiths, P., Ball, J., Simon, M., & Aiken, L. H. (2015). Association of 12 h shifts and nurses' job satisfaction, burnout and intention to leave: findings from a cross-sectional study of 12 European countries. *BMJ open*, **5**(9), 833-845.
- Danial, Z. (2009). Effect of total quality management in determining the educational needs of critical wards nurses. *Journal of Critical Care Nursing*, **2**(3), 117-120.
- Das, A., Paul, H., & Swierczek, F. W. (2008). Developing and validating total quality management (TQM) constructs in the context of Thailand's manufacturing industry. *Benchmarking: An International Journal*, **15**(1), 52-72.
- De Gieter, S., Hofmans, J., & Pepermans, R. (2011). Revisiting the impact of job satisfaction and organizational commitment on nurse turnover intention: An individual differences analysis. *International Journal of Nursing Studies*, **48**(12), 1562-1569.
- De Jong, J. P., & Den Hartog, D. N. (2008). Innovative work behavior: Measurement and validation. *EIM Business and Policy Research*, **8**(1), 1-27.
- DeCarolis, D. M., & Deeds, D. L. (1999). The impact of stocks and flows of organizational knowledge on firm performance: An empirical investigation of the biotechnology industry. *Strategic Management Journal*, **20**(10), 953-968.
- Deming, W. E. (1986). Out of the crisis. massachusetts institute of technology. *Center for Advanced Engineering Study, Cambridge, MA*, **5**(10), 419-425.
- Demirbag, M., Tatoglu, E., Tekinkus, M., & Zaim, S. (2006a). An analysis of the relationship between TQM implementation and organizational performance: evidence from Turkish SMEs. *Journal of Manufacturing Technology Management*, **17**(6), 829-847.
- Denker, A. G. (2014). Transformational Leadership in Nursing: A Pilot Nurse Leader Development Program.
- Denscombe, M. J. (2007). The good research guide. Berkshire. *England: McGraw-Hill Education*.
- DeVellis, R. F. (2016). *Scale development: Theory and applications* (Vol. 26): Sage publications.

- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: the tailored design method* (3rd ed.). Hoboken, N.J.: John Wiley & Sons.
- Dillman, D. A., Smyth, J. D., & Melani, L. (2011). Internet, mail and Mixed-Mode Surveys: The Tailored Design Method. *Survey Research*, **34**(833), 635.
- Donabedian, A. (1989). Institutional and professional responsibilities in quality assurance. *International Journal for Quality in Health Care*, **1**(1), 3-11.
- Donaldson, L. (2001). *The Contingency Theory of Organizations* Sage Publications. *Thousand Oaks, CA, USA*.
- Dow, D., Samson, D., & Ford, S. (1999). Exploding the myth: do all quality management practices contribute to superior quality performance? *Production Operations Management*, **8**(1), 1-27.
- Drach-Zahavy, A. (2004). Exploring Team Support: The Role of Team's Design, Values, and Leader's Support. *Group Dynamics: Theory, Research, and Practice*, **8**(4), 235.
- Duggirala, M., Rajendran, C., & Anantharaman, R. (2008). Patient-perceived dimensions of total quality service in healthcare. *Benchmarking: An International Journal*, **15**(5), 560-583.
- Dunham, R. B., Grube, J. A., & Castaneda, M. B. (1994). Organizational commitment: The utility of an integrative definition. *Journal of Applied psychology*, **79**(3), 370.
- El Shenawy, E., Baker, T., & Lemak, D. (2007). A meta-analysis of the effect of TQM on competitive advantage. *International Journal of Quality Reliability Management*, **24**(5), 442-471.
- El-Tohamy, A. E.-M. A., & Al Raoush, A. T. (2015). The impact of applying total quality management principles on the overall hospital effectiveness: an empirical study on the HCAC accredited governmental hospitals in Jordan. *European Scientific Journal*, **11**(10), 11-19.
- Farsi.Z .Dehghand-Nayeri, N., Negarandeh, R., & Broomand, S. (2010). Nursing profession in Iran: an overview of opportunities and challenges. *Japan Journal of Nursing Science*, **7**(1), 9-18.
- Feigenbaum, A. V. (1991). *Total quality control* (Vol. 3rd ed). New York.USA: McGraw-Hill.
- Flinkman, M., Leino-Kilpi, H., & Salanterä, S. (2010). Nurses' intention to leave the profession: integrative review. *Journal of Advanced Nursing*, **66**(7), 1422-1434.

- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Fotopoulos, C. V., & Psomas, E. L. (2010). The structural relationships between TQM factors and organizational performance. *The TQM Journal*, 22(5), 539-552.
- François, P., Vinck, D., Labarère, J., Reverdy, T., & Peyrin, J.-C. (2005). Assessment of an intervention to train teaching hospital care providers in quality management. *BMJ Quality & Safety*, 14(4), 234-239.
- François, P., Vinck, D., Labarère, J., Reverdy, T., & Peyrin, J. C. (2005). Assessment of an intervention to train teaching hospital care providers in quality management. *BMJ Quality & Safety*, 14(4), 234-239.
- Gabrani, A., Hoxha, A., Gabrani, J., Petrela, E., Zaimi, E., & Avdullari, E. (2016). Perceived organizational commitment and job satisfaction among nurses in Albanian public hospitals: A cross-sectional study. *International Journal of Healthcare Management*, 9(2), 110-118.
- Galbraith, J. R. (1977). *Organization design*: Addison Wesley Publishing Company.
- Galbreath, J. J. T. (2005). Which resources matter the most to firm success? An exploratory study of resource-based theory. 25(9), 979-987.
- Galletta, M., Portoghese, I., & Battistelli, A. (2011). Intrinsic motivation, job autonomy and turnover intention in the Italian healthcare: The mediating role of affective commitment. *Journal of Management Research*, 3(2), 1-19.
- Galletta, M., Portoghese, I., & Battistelli, A. (2011). Intrinsic motivation, job autonomy and turnover intention in the Italian healthcare: The mediating role of affective commitment. *Journal of Management research*, 3(2), 1-19.
- George, D., & Mallery, P. (2010). SPSS for Windows step by step. A simple study guide and reference (10. Baskı). In: Boston, MA: Pearson Education, Inc.
- Gerrish, K., & Lacey, A. (2010). *The Research Process in Nursing: (3rd ed) USA*, John Wiley & Sons.
- Gillet, N., Colombat, P., Michinov, E., Pronost, A. M., & Fouquereau, E. (2013). Procedural justice, supervisor autonomy support, work satisfaction, organizational identification and job performance: The mediating role of need satisfaction and perceived organizational support. *Journal of Advanced Nursing*, 69(11), 2560-2571.
- Gimenez-Espin, J. A., Jiménez-Jiménez, D., & Martínez-Costa, M. (2013). Organizational culture for total quality management. *Total Quality Management & Business Excellence*, 24(5-6), 678-692.

- Godfrey, G., Dale, B., Marchington, M., & Wilkinson, A. (1997). Control: a contested concept in TQM research. *International journal of operations & production management*, *17*(6), 558-573.
- Goh, C. Y., & Marimuthu, M. (2016). The path towards healthcare sustainability: the role of organisational commitment. *Procedia-Social Behavioral Sciences*, *224*(2), 587-592.
- González-Espada W, Oliver JS (2002) Making Puerto Rican high school physics contextual and culturally relevant: a statistical analysis of influencing factors. Proceedings of the 2002 Annual International Conference of the Association for the Education of Teachers in Science, Charlotte (North Carolina, US); 10-13 January 2002; 7: : 682-702.
- Gooran, M. A. (2016). The Implementation Of Quality Management And The Role Of Leadership In Iranian Hospitals. (PHD Thesis), University Of East London, London.
- Gorsuch, R. L. (1990). Common factor analysis versus component analysis: Some well and little known facts. *Multivariate Behavioral Research*, *25*(1), 33-39.
- Götz, O., Liehr-Gobbers, K., & Krafft, M. (2010). Evaluation of structural equation models using the partial least squares (PLS) approach. In Handbook of partial least squares (691-711):USA. Springer.
- Gowen III, C. R., McFadden, K. L., & Settaluri, S. (2012). Contrasting continuous quality improvement, Six Sigma, and lean management for enhanced outcomes in US hospitals. *American Journal of Business*, *27*(2), 133-153.
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic management journal*, *17*(S2), 109-122.
- Greene, M. A. (2010). Paying for nursing orientation: A huge cost to hospitals. *Journal for Nurses in Professional Development*, *26*(6), E3-E7.
- Güteryüz, G., Güney, S., Aydın, E. M., & Aşan, Ö. (2008). The mediating effect of job satisfaction between emotional intelligence and organisational commitment of nurses: A questionnaire survey. *International journal of nursing studies*, *45*(11), 1625-1635.
- Güngör, P. (2011). The relationship between reward management system and employee performance with the mediating role of motivation: A quantitative study on global banks. *Procedia-Social and Behavioral Sciences*, *24*, (2)1510-1520.
- Haddad, M. d. C. L., & Évora, Y. D. M. (2008). Qualidade da assistência de enfermagem: a opinião do paciente internado em hospital universitário público. *Ciência, Cuidado e Saúde*, *7*(2), 45-52.

- Hafeez, M. H., Shariff, M. N. M., & Lazim, H. B. M. (2012). Relationship between entrepreneurial orientation, firm resources, SME branding and firm's performance: Is innovation the missing link. *American Journal of Industrial and Business Management*, 2(4), 153-159.
- Hair, J., Black, B., Babin, B., Anderson, R., & Tatham, R. (2010). *Multivariate Data Analysis*. Upper Saddle River, New Jersey: Person Education. Inc., USA. Cengage Learning Emea.
- Hair, J., Money, A., Samouel, P. and Page, M. (2007), "Research Methods for Business",
Emerald. 49(4), 336-337..
- Hair, J. J. M. d. a. F., William C. Black, J. Barry Babin, Rolph E. Anderson, Ronald L. Tatham.(2006).
- Hamel, G., & Prahalad, C. K. (2005). Strategic intent. *Harvard Business Review*, 83(7/8), 148–161.
- Han, Y., & Park, Y. (2013). Effects of self-leadership and job involvement on clinical competence in general hospital nurses. *Journal of Korean Academy of Nursing Administration*, 19(4), 462-469.
- Handley, M. A., Lyles, C. R., McCulloch, C., & Cattamanchi, A. (2018). Selecting and improving quasi-experimental designs in effectiveness and implementation research. *Annual review of public health*, 39,(2) 5-25.
- Handyside, J., & Suresh, G. (2010). Human factors and quality improvement. *Clinics in Perinatology*, 37(1), 123-140.
- Harrington, L., & Heidkamp, M. (2013). The aging workforce: Challenges for the health care industry workforce. *Aging*, 2020, 115-125.
- Harris, A. D., McGregor, J. C., Perencevich, E. N., Furuno, J. P., Zhu, J., Peterson, D. E., & Finkelstein, J. (2006). The use and interpretation of quasi-experimental studies in medical informatics. *Journal of the American Medical Informatics Association*, 13(1), 16-23.
- Harris, F., & McCaffer, R. (2013). *Modern Construction Management*. USA. John Wiley & Sons.
- Hassan, B., & Olufemi, O. (2014). Demographic Variables and Job Performance: Any Link? *Acta Universitatis Danubius. Economica*, 10(4), 19-30.
- Hassan, J., Hongkralert, N., & Sillabutra, J. (2015). Effect of efficacy on nursing performance in Indira Gandhi Memorial Hospital, Maldives. *Journal of Public Health Development*, 13(2), 19-30.

- Hayajneh, Y. A., AbuAlRub, R. F., & Almahzoomy, I. K. (2010). Adverse events in Jordanian hospitals: types and causes. *International Journal of Nursing Practice*, **16**(4), 374-380.
- Heenan, M., Khan, H., & Binkley, D. (2010). From boardroom to bedside: how to define and measure hospital quality. *Healthc Q*, **13**(1), 55-60.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *New Challenges to International Marketing* **22**(3), 277-319.
- Heo, M. (2014). Impact of subject attrition on sample size determinations for longitudinal cluster randomized clinical trials. *Journal of Biopharmaceutical Statistics*, **24**(3), 507-522.
- Hermon R, Williams PAH. A study on information induced medication errors. Originally published in the Proceedings of the 2nd Australian eHealth Informatics and Security Conference, held 2nd-4th December, 2013 at Edith Cowan University, Perth, Western Australia. DOI: 10.4225/75/57981e4131b42 .
- Hietschold, N., Reinhardt, R., & Gurtner, S. (2014). Measuring critical success factors of TQM implementation successfully—a systematic literature review. *International Journal of Production Research*, **52**(21), 6254-6272.
- Huisman, E. R., Morales, E., van Hoof, J., & Kort, H. (2012). Healing environment: A review of the impact of physical environmental factors on users. *Building and Environment*, **58**(2), 70-80.
- Humera amin, s. z. a. b. i. s. t., & Ahmad, b. (2015). The impact of soft total quality management practices on employees' job satisfaction: evidence from project based organizations in pakistan. *practice and perspectives*, 7.
- Hurst, C. S., Hagensee, M. E., Ahmed, S. A., & Smith, J. S. (2015). Validation of Educational Tools for Use in a Human Papillomavirus Intervention Study. *Cancer and Oncology Research*, **3**(3), 35-43.
- Hyer, K., Thomas, K. S., Branch, L. G., Harman, J. S., Johnson, C. E., & Weech-Maldonado, R. (2011). The influence of nurse staffing levels on quality of care in nursing homes. *The Gerontologist*, **51**(5), 610-616.
- Iliyasu, Z., Abubakar, I., Abubakar, S., Lawan, U., & Gajida, A. (2010). Patients' satisfaction with services obtained from Aminu Kano Teaching Hospital, Kano, Northern Nigeria. *Nigerian Journal of Clinical Practice*, **13**(4):371-378.
- Im, S. I., Park, J., & Kim, H. S. (2012). The Effects of Nurses Communication and Self-Leadership on Nursing Performance. *Korean Journal of Occupational Health Nursing*, **21**(3), 274-282.

- Iqbal, A., & Asrar-ul-Haq, M. (2018). Establishing relationship between TQM practices and employee performance: The mediating role of change readiness. *International Journal of Production Economics*, **203**(3), 62-68.
- Irfan, S., Ijaz, A., Kee, D., & Awan, M. (2012). Improving Operational Performance of Public Hospital in Pakistan: A TQM Based Approach. *World Applied Sciences Journal*, **19**(6), 904-913.
- Ishijima, H., Eliakimu, E., & Mshana, J. M. (2016a). The “5S” approach to improve a working environment can reduce waiting time: Findings from hospitals in Northern Tanzania. *The TQM Journal*, **28**(4), 664-680.
- Ishijima, H., Eliakimu, E., Takahashi, S., & Miyamoto, N. (2014). Factors influencing national rollout of quality improvement approaches to public hospitals in Tanzania. *Clinical Governance: An International Journal*, **19**(2), 137-152.
- Hamdan, F. R., & AlMomani, I. (2015). Jordanian nurses and acute myocardial infarction patients' perceptions about learning needs. *Glob J Med Phys Health Educ*, **3**(3), 85-99.
- Islam, J., & Hu, H. (2012). A review of literature on contingency theory in managerial accounting. *African journal of business management*, **6**(15), 5159-5164.
- Ismail, A. I., Abdul-Halim, A., & Joarder, M. H. R. (2015). Mediating role of distributive justice in the relationship between career incentives and employee performance. *Journal of Economics, Business Management Research News*, **3**(10), 929-935.
- Ismail, A. I., Majid, A. H. A., Zakaria, M. N., Abdullah, N. A. C., Hamzah, S., & Mukari, S. Z.-M. S. (2018). Factors predicting health practitioners' awareness of UNHS program in Malaysian non-public hospitals. *International Journal of Pediatric Otorhinolaryngology*, **109**, 78-84.
- Ismail Salaheldin, S. (2009). Critical success factors for TQM implementation and their impact on performance of SMEs. *International Journal of Productivity and Performance Management*, **58**(3), 215-237.
- Jafaraghaee, F., Mehrdad, N., & Parvizy, S. (2014). Influencing factors on professional commitment in Iranian nurses: A qualitative study. *Iranian Journal of Nursing and Midwifery Research*, **19**(3), 301.
- Jamali, G., Ebrahimi, M., & Abbaszadeh, M. A. (2010). TQM implementation: an investigation of critical success factors. Paper presented at the Education and Management Technology (ICEMT), 2010 International Conference on.
- James, B. C. (1989). *Quality management for health care delivery*: Chicago,US,Hospital Research and Educational Trust.

- Jeeza, H., Hongkralert, N., & Sillabutra, J. (2015). Effect of efficacy on nursing performance in Indira Gandhi Memorial Hospital, Maldives. *Journal of Public Health and Development*, 13(2), 1-12.
- Johnston, S., Dahrouge, S., & Hogg, W. (2008). Gauging to gain: Primary care performance measurement. *Canadian Family Physician*, 54(9), 1215-1217.
- Jones, K. J., Skinner, A. M., High, R., & Reiter-Palmon, R. (2013). A theory-driven, longitudinal evaluation of the impact of team training on safety culture in 24 hospitals. *BMJ Quality Safety*, 22(5), 394-404.
- Jordan, M. o. H. (2018). Health Statistics. Retrieved from <https://www.moh.gov.jo/Pages/viewpage.aspx?pageID=232>.
- Jordan, M. o. H. (2017). Health Statistics. Retrieved from <https://www.moh.gov.jo/Pages/viewpage.aspx?pageID=232>.
- Juran, J. M. (1988). *Juran on planning for quality*: Free Press New York.
- Juran, J. M. (1995). A history of managing for quality. *Quality Progress*, 28(8), 125-130.
- Jurow, S., & Barnard, S. (2013). *Integrating total quality management in a library setting*: Routledge.
- Kaluzny, A. D., McLaughlin, C. P., & Kibbe, D. C. (1992). Continuous quality improvement in the clinical setting: enhancing adoption. *Quality Management in Health Care*, 1(1), 37-44.
- Kaluzny, A. D., McLaughlin, C. P., & Simpson, K. (1992). Applying total quality management concepts to public health organizations. *Public Health Reports*, 107(3), 257.
- Kamiske, G. F. (2013). *Die Hohe Schule des Total Quality Management*. USA. Springer-Verlag.
- Kanamori, S., Shibanuma, A., & Jimba, M. (2016). Applicability of the 5S management method for quality improvement in health-care facilities: a review. *Tropical Medicine and Health*, 44(1), 21.
- Kaplan, H. C., Brady, P. W., Dritz, M. C., Hooper, D. K., Linam, W. M., Froehle, C. M., & Margolis, P. J. T. M. Q. (2010). The influence of context on quality improvement success in health care: a systematic review of the literature. 88(4), 500-559.
- Karami, A., Farokhzadian, J., & Foroughameri, G. (2017). Nurses' professional competency and organizational commitment: Is it important for human resource management? *PloS One*, 12(11), e0187863.

- Karatepe, O. M. (2013). High-performance work practices and hotel employee performance: The mediation of work engagement. *International Journal of Hospitality Management*, **32**, 132-140.
- Ketikidis, P. H., Koh, S. L., Gunasekaran, A., Demirbag, M., Tatoglu, E., Tekinkus, M., & Zaim, S. (2006). An analysis of the relationship between TQM implementation and organizational performance. *Journal of Manufacturing Technology Management*, **17**(6), 829-847.
- Kelarijani, S. E. J., Heidarian, A. R., Jamshidi, R., & Khorshidi, M. (2014). Length of service and commitment of nurses in hospitals of Social Security Organization (SSO) in Tehran. *Caspian Journal of Internal Medicine*, **5**(2), 94.
- Kelly, E. L., Moen, P., Oakes, J. M., Fan, W., Okechukwu, C., Davis, K. D., . . . Hanson, G. C. (2014). Changing work and work-family conflict: Evidence from the work, family, and health network. *American Sociological Review*, **79**(3), 485-516.
- Kieft, R. A., de Brouwer, B. B., Francke, A. L., & Delnoij, D. M. (2014a). How nurses and their work environment affect patient experiences of the quality of care: a qualitative study. *BMC Health Services Research*, **14**(1), 249.
- Kiesel, A., Steinhauser, M., Wendt, M., Falkenstein, M., Jost, K., Philipp, A. M., & Koch, I. (2010). Control and interference in task switching—A review. *Psychological Bulletin*, **136**(5), 849.
- Kim, K., Han, Y., Kwak, Y., & Kim, J.-s. (2015). Professional quality of life and clinical competencies among Korean nurses. *Asian Nursing Research*, **9**(3), 200-206.
- Kingma, M. (2007). Nurses on the move: a global overview. *Health Services Research*, **42**(3), 1281-1298.
- Kioi, S. W., & Cowden, R. (2015). An evaluation on in-patient satisfaction at meridian equator hospital (nairobi, kenya). *Arabian Journal of Business and Management Review*, **4**(7), 32-45.
- Kline, R. (2005). Methodology in the social sciences. In: Principles and practice of structural equation modeling (2nd ed.). New York, US: Guilford Press.
- Knight, J. B., & Kotschevar, L. H. (1979). Quantity food production, planning, and management: Van Nostrand Reinhold Company. New York ; Chichester : Wiley.
- Kober, R., Subraamanniam, T., & Watson, J. (2012). The impact of total quality management adoption on small and medium enterprises' financial performance. *Accounting & Finance*, **52**(2), 421-438.

- Koc, T. (2011). The relationship between TQM and performance in SMEs: the mediation effect of failure. *International Journal of Industrial Engineering: Theory, Applications and Practice*, **18**(4), 203-218.
- Krishnamoorthy, G., & Theerthapada, R. (2002). A multistage approach to external auditors' evaluation of the internal audit function. *Auditing: A Journal of Practice*, **21**(1), 95-121.
- Kruse, R. L., Alper, B. S., Reust, C., Stevermer, J. J., Shannon, S., & Williams, R. H. (2002). Intention-to-treat analysis: who is in? Who is out? *Journal of Family Practice*, **51**(11), 969-971.
- Kumar, M., Talib, S. A., & Ramayah, T. (2013). *Business research methods*: Oxford Fajar/Oxford University Press,usa.
- Kumar, P., Mehra, A., Inder, D., & Sharma, N. (2016). Organizational commitment and intrinsic motivation of regular and contractual primary health care providers. *Journal of Family Medicine and Primary Care*, **5**(1), 94.
- Kumar, R., Garg, D., & Garg, T. (2011). TQM success factors in North Indian manufacturing and service industries. *The TQM Journal*, **23**(1), 36-46.
- Kumar, R., Somrongsong, R., & Ahmed, J. (2016). Impact of waste management training intervention on knowledge, attitude and practices of teaching hospital workers in Pakistan. *Pakistan Journal of Medical Sciences*, **32**(3), 705.
- Kumar, S., Ghildayal, N. S., & Shah, R. N. (2011). Examining quality and efficiency of the US healthcare system. *International journal of health care quality assurance*, **24**(5), 366-388.
- Kumar, U., Kumar, V., de Grosbois, D., & Choisine, F. (2009). Continuous improvement of performance measurement by TQM adopters. *Total Quality Management*, **20**(6), 603-616.
- Kumar, V., Choisine, F., de Grosbois, D., Kumar, U. J. I. j. o. q., & management, r. (2009). Impact of TQM on company's performance. **26**(1), 23-37.
- Kuo, T.-H., & Kuo, Y.-L. (2010). The effect of corporate culture and total quality management on construction project performance in Taiwan. *Total Quality Management*, **21**(6), 617-632.
- Kurtz, C. (2010). Nurses of 2010: The dichotomy between continuity of patient care and nursing fatigue as related to shift length. Senior Research Projects. 6.
- Kusumah, L. H. (2013). The essential factors of TQM principles implementation in small industries in Indonesia. *J US-China Public Adm*, **10**(12), 1190-1198.
- Lachman, R., & Aranya, N. (1986). Evaluation of alternative models of commitments and job attitudes of professionals. *Journal of Organizational Behavior*, **7**(3), 227-243.

- Lai, M.-C. (2003). An investigation into the relationship between total quality management practice and performance in a Taiwan public hospital. (PHD Thesis), Australian Catholic University, Australia
- Larber, M., & Savis, S. (2014). Factors affecting nurses organizational commitment. *Obzornik Zdravstvene Nege*, **48**(4), 294-301.
- Larrabee, J. H., Wu, Y., Persily, C. A., Simoni, P. S., Johnston, P. A., Marcischak, T. L., . . . Gladden, S. D. (2010). Influence of stress resiliency on RN job satisfaction and intent to stay. *Western Journal of Nursing Research*, **32**(1), 81-102.
- Lashgari, M. H., Arefanian, S., Mohammadshahi, A., & Khoshdel, A. R. (2015). Effects of the Total Quality Management Implication on Patient Satisfaction in the Emergency Department of Military Hospitals. *Journal of Archives in Military Medicine*, **3**(1), 26952-26959.
- Lawler III, E. E., & Mohrman, S. A. (2000). Beyond the vision: what makes HR effective? *Human Resource Planning*, **23**(4), 10-10.
- Lee, P. A., Nagaosa, N., & Wen, X.-G. (2006). Doping a Mott insulator: Physics of high-temperature superconductivity. *Reviews of Modern Physics*, **78**(1), 17-27.
- Lerman, S. E., Eskin, E., Flower, D. J., George, E. C., Gerson, B., Hartenbaum, N., . . . Moore-Ede, M. (2012). Fatigue risk management in the workplace. *Journal of Occupational and Environmental Medicine*, **54**(2), 231-258.
- Li, A., Early, S. F., Mahrer, N. E., Klaristenfeld, J. L., & Gold, J. I. (2014). Group cohesion and organizational commitment: protective factors for nurse residents' job satisfaction, compassion fatigue, compassion satisfaction, and burnout. *Journal of Professional Nursing*, **30**(1), 89-99.
- Lifvergren, S. (2013). Quality improvement in healthcare. (Unpublished doctoral dissertation). Department of Technology Management and Economics Division of Quality Sciences, Göteborg, Sweden .
- Lum, L., Kervin, J., Clark, K., Reid, F., & Sirola, W. (1998). Explaining nursing turnover intent: job satisfaction, pay satisfaction, or organizational commitment?. *The International Journal of Industrial, Occupational Organizational Psychology Behavior*, **19**(3), 305-320.
- Luthans, F. (1973). The contingency theory of management: A path out of the jungle. *Business Horizons*, **16**(3), 67-72.
- Lwanga, S. K., Lemeshow, S., & Organization, W. H. (1991). Sample size determination in health studies: a practical manual. <https://apps.who.int/iris/handle/10665/40062>.

- Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research and Practice*, *35*(3), 382–386.
- Maccallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological methods*, *4*(1), 84.
- Macphee, M., Dahinten, V. S., & Havaei, F. (2017). The impact of heavy perceived nurse workloads on patient and nurse outcomes. *Administrative Sciences*, *7*(1), 7.
- Mahmoud, A. H. (2008). A study of nurses' job satisfaction: the relationship to organizational commitment, perceived organizational support, transactional leadership, transformational leadership, and level of education. *European Journal of Scientific Research*, *22*(2), 286-295.
- Makadok, R. (2001). Toward a synthesis of the resource-based and dynamic-capability views of rent creation. *Strategic management journal*, *22*(5), 387-401.
- Malorny, C., & Hummel, T. R. (2011). *Total Quality Management: Tipps für die Einführung*: Hanser.
- Manyisa, Z. M., & van Aswegen, E. J. (2017). Factors affecting working conditions in public hospitals: A literature review. *International journal of Africa nursing sciences*, *6*(3) 28-38.
- Manzano-García, G., & Ayala, J.-C. (2017). Insufficiently studied factors related to burnout in nursing: Results from an e-Delphi study. *PloS One*, *12*(4), e0175352.
- Martínez-Mesa, J., González-Chica, D. A., Duquia, R. P., Bonamigo, R. R., & Bastos, J. L. (2016). Sampling: how to select participants in my research study? *Anais Brasileiros De Dermatologia*, *91*(3), 326-330.
- Massey, D., Chaboyer, W., & Anderson, V. (2017). What factors influence ward nurses' recognition of and response to patient deterioration? An integrative review of the literature. *Nursing open*, *4*(1), 6-23.
- Matthews, J. (2012). Role of professional organizations in advocating for the nursing profession. *Online J Issues Nurs*, *17*(3), 332-333.
- Mccabe, T., & Sambrook, S. (2013). Psychological contracts and commitment amongst nurses and nurse managers: A discourse analysis. *International Journal of Nursing Studies*, *50*(7), 954-967.
- McClellan, M., & Rivlin, A. (2014). Improving health while reducing cost growth: what is possible? Washington,dc,USA: The Brookings Institution.
- Mcconnell, C. R. (2003). The manager's approach to employee performance problems. *The Health Care Manager*, *22*(1), 63-69.

- Mchugh, M. D., & Ma, C. (2014). Wage, work environment, and staffing: effects on nurse outcomes. *Policy, Politics, & Nursing Practice*, *15*(3-4), 72-80.
- Mclaughlin, C. P., & Kaluzny, A. D. (1990). Total quality management in health: making it work. *Health Care Management Review*, *15*(3), 7-14.
- Mehmet, T. (2013). Organizational variables on nurses' job performance in Turkey: Nursing assessments. *Iranian Journal of Public Health*, *42*(3), 261-274.
- Melan, E. H. (1998). Implementing TQM: a contingency approach to intervention and change. *International Journal of Quality Science*, *3*(2), 126-146.
- Mellat Parast, M., Adams, S. G., & Jones, E. C. (2011). Improving operational and business performance in the petroleum industry through quality management. *International Journal of Quality & Reliability Management*, *28*(4), 426-450.
- Meyer, P. J., & Allen, J. N. (1997). Commitment in the workplace: Theory, research, and application. Thousand Oaks, CA: Sage.
- Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human resource Management Review*, *1*(1), 61-89.
- Meyer, J. P., & Allen, N. J. (1997). Commitment in the workplace: Theory, research, and.
- Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology*, *78*(4), 538-545.
- Meyer, J. W., & Scott, W. R. (1992). *Organizational environments: Ritual and rationality*. Newbury Park, Calif: Sage Publications.
- Meyer, S. M., & Collier, D. A. (2001). An empirical test of the causal relationships in the Baldrige Health Care Pilot Criteria. *Journal of Operations Management*, *19*(4), 403-426.
- Mhsw. (2013). Ministry of health and social welfare, Tanzania.
- Mintzberg, H., Etzion, D. & Mantere, S. Worldly .(1982).strategy for the global climate. *Stanford Social Innovation Review*, *16*(4): 42-47
- Minvielle, E., Sicotte, C., Champagne, F., Contandriopoulos, A.-P., Jeantet, M., Préaubert, N., . . . Richard, C. (2008). Hospital performance: Competing or shared values? *Health Policy*, *87*(1), 8-19.
- Moffat, K., & Mercer, S. W. (2015). Challenges of managing people with multimorbidity in today's healthcare systems. *BMC Family Practice*, *16*(1), 129-137.

- Mohajan, H. K. (2017). Two criteria for good measurements in research: validity and reliability. *Annals of Spiru Haret University, Economic Series*, *17*(4), 59-82.
- Mohammad Mosadegh Rad, A. (2006). The impact of organizational culture on the successful implementation of total quality management. *The TQM magazine*, *18*(6), 606-625.
- Mohammad Mosadeghrad, A. (2014). Why TQM does not work in Iranian healthcare organisations. *International Journal of Health Care Quality Assurance*, *27*(4), 320-335.
- Mohrman, S. A., Shani, A. B., & Mccracken, A. (2012). Organizing for sustainable health care: The emerging global challenge. *Organizing for Sustainable Health Care*, *2*(1), 1-39.
- MoHSW, T. (2013). Implementation Guidelines for 5S-KAIZEN-TQM approaches in Tanzania. In: Ministry of Health and Social Welfare, Dar es Salaam, Tanzania.
- Ministry of Health, Annual Statistical Report 2018 [webpage on the Internet]. Ministry of Health, Amman, Jordan; 2018. Available from: <http://apps.moh.gov.jo/MOH/En/publications.php>. Accessed March 13, 2019.
- Ministry of Health, Annual Statistical Report 2017 [webpage on the Internet]. Ministry of Health, Amman, Jordan; 2017. Available from: <http://apps.moh.gov.jo/MOH/En/publications.php>. Accessed April 13, 2018.
- Monteiro, C., Avelar, A. F. M., & Pedreira, M. d. L. G. (2015). Interruptions of nurses' activities and patient safety: an integrative literature review. *Revista Latino-Americana De Enfermagem*, *23*(1), 169-179.
- Mosadeghrad, A. M. (2012). Implementing strategic collaborative quality management in healthcare sector. *International Journal of Strategic Change Management*, *4*(3-4), 203-228.
- Mosadeghrad, A. M. (2014). Factors influencing healthcare service quality. *International journal of health policy and management*, *3*(2), 77.
- Mosadeghrad, A. M. (2015). Developing and validating a total quality management model for healthcare organisations. *The TQM Journal*, *27*(5), 544-564.
- Mowday, R. T., Porter, L. W., & Steers, R. M. (2013). Employee—organization linkages: The psychology of commitment, absenteeism, and turnover: Academic press. New York.
- Mrayyan, M. T., & Al-Faouri, I. (2008). Predictors of career commitment and job performance of Jordanian nurses. *Journal of Nursing Management*, *16*(3), 246-256.

- Munizu, M. (2013). The impact of total quality management practices towards competitive advantage and organizational performance: Case of fishery industry in South Sulawesi province of Indonesia. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 7(1), 184-197.
- Nabirye, R. (2010). Occupational stress, job satisfaction, and job performance among hospital nurses in Kampal, Uganda. (Doctor of Philosopher Dissertation), University of Alabama, Birmingham.
- Nadler, D., & Tushman, M. (1988). Strategic organization design: Concepts, tools & processes: New work ,US.Scott Foresman & Co.
- Naghneh, M. H. K., Tafreshi, M. Z., Naderi, M., Shakeri, N., Bolourchifard, F., & Goyaghaj, N. S. (2017). The relationship between organizational commitment and nursing care behavior. *Electronic Physician*, 9(7), 4835-4845.
- Naser Alolayyan, M., Anuar Mohd Ali, K., & Idris, F. (2011). The influence of total quality management (TQM) on operational flexibility in Jordanian hospitals: Medical workers' perspectives. *Asian Journal on Quality*, 12(2), 204-222.
- Navipour, H., Nayeri, N. D., Hooshmand, A., & Zargar, M. T. (2011). An investigation into the effects of quality improvement method on patients' satisfaction: a semi experimental research in Iran. *Acta Medica Iranica*, 49(1),38-43.
- Nazer, L. H., & Tuffaha, H. (2017). Health care and pharmacy practice in Jordan. *The Canadian Journal of Hospital Pharmacy*, 70(2), 150-155.
- Nehrir, B., Ebadi, A., Sh, T., AA, K. Z., & Honarvar, H. (2010). Relationship of job satisfaction and organizational commitment in hospital nurses. *Journal Mil Med*, 12(1), 23-26.
- Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). *Scaling procedures: Issues and applications*. US. Sage Publications.
- Nunes, E. M. G. T., & Gaspar, M. F. M. (2017). Quality of the leader-member relationship and the organizational commitment of nurses. *Revista da Escola de Enfermagem da USP*, 51(2),1-6.
- Nunnally, J. C. & Bernstein IH (1994). *Psychometric theory 3E*. New York:Tata McGraw-Hill Education.
- Oakland, J. S. (2014). Total quality management and operational excellence: text with cases,4th edn: New york. Routledge.
- Oess, A. (2013). Total quality management: die ganzheitliche Qualitätsstrategie:3 edn,New york Springer-Verlag.

- Oh, E.-H., & Chung, B.-Y. (2011). The effect of empowerment on nursing performance, job satisfaction, organizational commitment, and turnover intention in hospital nurses. *Journal of Korean Academy of Nursing Administration*, *17*(4), 391-401.
- Omran, S., & Obeidat, R. (2015). Palliative care nursing in Jordan. *Journal of Palliative Care & Medicine*, *4*(4), 1-5.
- Ooi, K.-B., Teh, P.-L., & Yee-Loong Chong, A. (2009). Developing an integrated model of TQM and HRM on KM activities. *Management Research News*, *32*(5), 477-490.
- Organization, W. H. (2000). *The World Health Report 2000: health systems: improving performance*: World Health Organization.
- Organization, W. H. (2015). from World Health Organization
- Orszag, P. R. (2011). How health care can save or sink America: the case for reform and fiscal sustainability. *Foreign Aff.*, *90*(2), 42-52.
- Øvretveit, J. (2000). Total quality management in European healthcare. *International journal of Health Care Quality Assurance*, *13*(2), 74-80.
- Padma, P., Rajendran, C., & Sai Lokachari, P. (2010). Service quality and its impact on customer satisfaction in Indian hospitals: Perspectives of patients and their attendants. *Benchmarking: An International Journal*, *17*(6), 807-841.
- Paim, J., Travassos, C., Almeida, C., Bahia, L., & Macinko, J. (2011a). The Brazilian health system: history, advances, and challenges. *The Lancet*, *377*(9779), 1778-1797.
- Paim, J., Travassos, C., Almeida, C., Bahia, L., & Macinko, J. J. T. L. (2011b). The Brazilian health system: history, advances, and challenges. *377*(9779), 1778-1797.
- Palani Natha Raja, M., Deshmukh, S., & Wadhwa, S. (2007). Quality award dimensions: a strategic instrument for measuring health service quality. *International journal of health care quality assurance*, *20*(5), 363-378.
- Pallant, J. (2007). *SPSS survival manual—A step by step guide to data analysis using SPSS for windows (3rd ed.)*. Maidenhead: Open University Press.
- Pape, T. M., Guerra, D. M., Muzquiz, M., Bryant, J. B., Ingram, M., Schraner, et al. (2005). Innovative approaches to reducing nurses' distractions during medication administration. *Journal of Continuing Education in Nursing*, *36*, 108-116.

- Permarupan, P. Y., Saufi, R. A., Kasim, R. S. R., & Balakrishnan, B. K. (2013). The impact of organizational climate on employee's work passion and organizational commitment. *Procedia-Social and Behavioral Sciences*, *107*(1), 88-95.
- Phillips, J. M., & Gully, S. M. (2011). *Organizational behavior: Tools for success*. Mason, oh: South Western Cengage Learning.
- Pike, J., & Barnes, R. (1996). *TQM in Action: A practical approach to continuous performance improvement*, London: Chapman and Hall.
- Platis, C., Reklitis, P., & Zimeras, S. (2015). Relation between job satisfaction and job performance in healthcare services. *Procedia-Social and Behavioral Sciences*, *175*, (2015), 480-487.
- Polanyi, M. J. L. R., & Paul, K. (1962). *Personal Knowledge*, revised edition.
- Porter, M. E. (1985). Technology and competitive advantage. *Journal of business strategy*, *5*(3), 60-78.
- Posthuma, R. A., Campion, M. C., Masimova, M., & Campion, M. A. (2013). A high performance work practices taxonomy: Integrating the literature and directing future research. *Journal of Management research*, *39*(5), 1184-1220.
- Powell, T. C. (1995). Total quality management as competitive advantage: a review and empirical study. *Strategic Management Journal*, *16*(1), 15-37.
- Prakash, V., Koczmar, C., Savage, P., Trip, K., Stewart, J., McCurdie, T., . . . Trbovich, P. (2014). Mitigating errors caused by interruptions during medication verification and administration: interventions in a simulated ambulatory chemotherapy setting. *BMJ Qual Saf*, *23*(11), 884-892.
- Prasad, C. V., & Prabhudesai, R. (2018). An Empirical Study on TQM Practices and Its Influence on Employee Satisfaction and Performance in Technical Institutions: Teachers' Perspectives. *J. Mgt. Mkt. Review*, *3*(3), 169-178.
- Prates, D. d. O., & Silva, A. E. B. d. C. (2016). Interruptions of activities experienced by nursing professionals in an intensive care unit. *Revista latino-Americana De Enfermagem*, *24*, e2802.
- Psychogios, A. G., & Society. (2005). Towards a Contingency Approach to Promising Business Management Paradigms: The Case of Total Quality Management. *Journal of Business*, *18*(1), 120-124.
- Ramez, W. S. (2012). Patients' perception of health care quality, satisfaction and behavioral intention: an empirical study in Bahrain. *International Journal of Business and Social Science*, *3*(18), 131-142.
- Radhakrishna, R. B. (2007). Tips for developing and testing questionnaires /instruments . *Journal of Extension*, *45*(1), 1-4.

- Ramseook-Munhurrin, P., Munhurrin, V., & Panchoo, A. (2011). Total quality management adoption in a public hospital: evidence from Mauritius. *Global Journal of Business Research*, *5*(3), 67-77.
- Rana, S., & Chopra, P. (2015). Transition Approach in Analyzing Organizational Learning Capability: From Employer Perspective to Employee Concern. *The International Journal of Business & Management*, *3*(8), 90-95.
- Rashid, H., & Raja, N. (2011). Mediating effect of corporate culture on the relationship of retention factors to organizational commitment. *Interdisciplinary Journal of Contemporary Research in Business*, *3*(8), 211-225.
- Reitz, O. E., Anderson, M. A., & Hill, P. D. (2010). Job embeddedness and nurse retention. *Nursing Administration Quarterly*, *34*(3), 190-200.
- Rohail, R., Zaman, F., Ali, M., Waqas, M., Mukhtar, M., & Parveen, K. (2017). Effects of Work Environment and Engagement on Nurses Organizational Commitment in Public Hospitals Lahore, Pakistan. *Saudi Journal of Medical and Pharmaceutical Sciences*, *3*(7), 748-753.
- Rouf, M. A., Debnath, S. C., Haque, M. E., Chowdhury, Z. M. R., Hasan, D. M. M., Zannat, T., & Rabby, M. F. (2017). Quality of hospital services in 5S-KAIZEN-TQM implemented secondary level hospital: a cross-sectional study. *Asian Journal of Medical and Biological Research*, *3*(3), 335-340.
- Russo, M. V., & Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of management Journal*, *40*(3), 534-559.
- Russo, M. V., & Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of management Journal*, *40*(3), 534-559.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68-78.
- Sabella, A., Kashou, R., & Omran, O. (2014). Quality management practices and their relationship to organizational performance. *International journal of operations & production management*, *34*(12), 1487-1505.
- Sacco, T. L., Ciurzynski, S. M., Harvey, M. E., & Ingersoll, G. L. (2015). Compassion satisfaction and compassion fatigue among critical care nurses. *Critical Care Nurse*, *35*(4), 32-42.
- Sadikoglu, E., & Olcay, H. (2014). The effects of total quality management practices on performance and the reasons of and the barriers to TQM practices in Turkey. *Advances in Decision Sciences*, *2014*(537605), 1-14.

- Sagy, M. (2009a). Optimizing Patient Care Processes in a Children's Hospital Using Six Sigma-Three projects to improve clinical quality undertaken at a pediatric hospital successfully reduced defects as well as supported specific quality aims identified by the Institute of Medicine. *Journal of Clinical Outcomes Management*, **16**(9), 411-420.
- Sagy, M. (2009b). Optimizing patient care processes in a children's hospital using Six Sigma. *JCOM*, **16**(9).
- Sajjad, F., & Amjad, S. (2011). Assessment of Total Quality Management Practices and Organizational Development.(The case of Telecom Services Sector of Pakistan). *Mediterranean Journal of Social Sciences*, **2**(2), 321-330.
- Saleh, A., Darawad, M., & Al-Hussami, M. (2014). Organizational commitment and work satisfaction among Jordanian nurses: A comparative study. *Life Science Journal Australian Journal of Advanced Nursing*, **11**(2), 31-36.
- Sallis, E. (2014). Total quality management in education: London,Routledge
- Samiei, V., Manaf, A., Ismail, A., & Ch, K. (2016). Job performance of clinical nurse managers and its relationship with their job satisfaction and job stress: A cross sectional study. *Int J Med Res Health Sci*, **5**(5), 381-390.
- Schoonhoven, C. B. (1981). Problems with contingency theory: testing assumptions hidden within the language of contingency" theory". *Administrative Science Quarterly*, **26**(3), 349-377.
- Sciascia, S., D'oria, L., Bruni, M., & Larrañeta, B. (2014). Entrepreneurial Orientation in low-and medium-tech industries: The need for Absorptive Capacity to increase performance. *European Management Journal*, **32**(5), 761-769.
- Scott, L. D., Rogers, A. E., Hwang, W.-T., & Zhang, Y. (2006). Effects of critical care nurses' work hours on vigilance and patients' safety. *American Journal of Critical Care*, **15**(1), 30-37.
- Sekaran, U. (2000). Research Methods for Business. United States of Amerika. In: John Wiley & Sons, Inc.
- Sekaran, U. (2003). Research methods for business . Hoboken. In: NJ: John Wiley & Sons.
- Sekaran, U., & Bougie, R. (2010). Research methods for business: A skill-building approach (5th ed.). Haddington: John Wiley & Sons.
- Serrano Cinca, C., Mar Molinero, C., & Bossi Queiroz, A. (2003). The measurement of intangible assets in public sector using scaling techniques. *Journal of Intellectual Capital*, **4**(2), 249-275.

- Shields, J., Brown, M., Kaine, S., Dolle-Samuel, C., North-Samardzic, A., McLean, P., Plimmer, G. (2015). *Managing employee performance & reward: Concepts, practices, strategies*: Cambridge, United Kingdom ,Cambridge University Press.
- Shra'ah, A. E. A., Rumman, M. A., Hamour, H. M. A., & Sha, I. (2013). Practicing Management" By Walking Around" and Its Impact on the Organizational Commitment in the Jordanian Hospitals. *Journal of Management Research*, 5(1), 64-75.
- Sila, I., & Ebrahimpour, M. (2002). An investigation of the total quality management survey based research published between 1989 and 2000: A literature review. *International Journal of Quality Reliability Management*, 19(7), 902-970.
- Sinha, N., & Dhall, N. (2018). Mediating effect of TQM on relationship between organisational culture and performance: evidence from Indian SMEs. *Total Quality Management Business Excellence*, Bus. Excell.1-25.
- Slavec, A., & Drnovšek, M. (2012). A perspective on scale development in entrepreneurship research. *Economic Business Review*, 14(1),39–62.
- Smith, T., Capitulo, K. L., Quinn Griffin, M. T., & Fitzpatrick, J. J. (2012). Structural empowerment and anticipated turnover among behavioural health nurses. *Journal of Nursing Management*, 20(5), 679-684.
- Sollecito, W., & Johnson, J. K. (2011). *McLaughlin and Kaluzny's continuous quality improvement in health care*: 4th Revised edition. Sudbury, United States, Jones & Bartlett Publishers.
- Soltani, E., Lai, P.-C., Javadeen, S. R. S., & Gholipour, T. H. (2008). A review of the theory and practice of managing TQM: An integrative framework. *Total Quality Management*, 19(5), 461-479.
- Somers, M. J. (2009). The combined influence of affective, continuance and normative commitment on employee withdrawal. *Journal of Vocational Behavior*, 74(1), 75-81.
- Spilsbury, K., Hewitt, C., Stirk, L., & Bowman, C. (2011). The relationship between nurse staffing and quality of care in nursing homes: a systematic review. *International journal of nursing studies*, 48(6), 732-750.
- Srima, S., Wannapiroon, P., & Nilsook, P. (2015). Design of total quality management information system (TQMIS) for model school on best practice. *Procedia-Social and Behavioral Sciences*, 174, 2160-2165.
- Steiner, P. M., Cook, T. D., Shadish, W. R., & Clark, M. H. (2010). The importance of covariate selection in controlling for selection bias in observational studies. *Psychological Methods*, 15(3), 250.

- Sternick, E. (2011). Using Baldrige performance excellence program approaches in the pursuit of radiation oncology quality care, patient satisfaction, and workforce commitment. *Frontiers in Oncology*, *1*(9), 1-5.
- Stevens, J. P. (1984). Outliers and influential data points in regression analysis. *Psychological Bulletin*, *95*(2), 334.
- Stimpfel, A. W., & Aiken, L. H. (2013). Hospital staff nurses' shift length associated with safety and quality of care. *Journal of Nursing Care Quality*, *28*(2), 122-132.
- Stimpfel, A. W., Sloane, D. M., & Aiken, L. H. (2012). The longer the shifts for hospital nurses, the higher the levels of burnout and patient dissatisfaction. *Health Affairs*, *31*(11), 2501-2509.
- Suresh, K. P., & Chandrashekara, S. (2012). Sample size estimation and power analysis for clinical research studies. *Journal of Human Reproductive Sciences*, *5*(1), 7-16.
- Swan, B. A., Haas, S. A., & Chow, M. (2010). Ambulatory care registered nurse performance measurement. *Nursing Economics*, *28*(5), 337-350.
- Sweis, R. J., Al-Mansour, A., Tarawneh, M., & Al-Dweik, G. (2013a). The impact of total quality management practices on employee empowerment in the healthcare sector in Saudi Arabia: a study of King Khalid Hospital. *International Journal of Productivity Quality Management in Healthcare*, *12*(3), 271-286.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*: Allyn & Bacon/Pearson Education. California State University, Northridge. Pearson.
- Take, N., Byakika, S., Tasei, H., & Yoshikawa, T. (2015). The effect of 5S-Continuous Quality Improvement-Total Quality Management approach on staff motivation, patients' waiting time and patient satisfaction with services at hospitals in Uganda. *Journal of Public Health in Africa*, *6*(1), 29-34.
- Talib, F., Rahman, Z., & Qureshi, M. (2012). Total quality management in service sector: a literature review. *International Journal of Business Innovation and Research*, *6*(3), 259-301.
- Talib, F., Rahman, Z., & Qureshi, M. (2013). An empirical investigation of relationship between total quality management practices and quality performance in Indian service companies. *International Journal of Quality & Reliability Management*, *30*(3), 280-318.
- Tan, C. L., & Nasurdin, A. M. (2011). Human resource management practices and organizational innovation: assessing the mediating role of knowledge management effectiveness. *Electronic journal of Knowledge Management*, *9*(2), 155-166.

- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*(7), 509-533.
- Teng, C. I., Dai, Y. T., Lotus Shyu, Y. I., Wong, M. K., Chu, T. L., & Tsai, Y. H. (2009). Professional commitment, patient safety, and patient-perceived care quality. *Journal of Nursing Scholarship*, *41*(3), 301-309.
- Teng, C. I., Dai, Y. T., Lotus Shyu, Y. I., Wong, M. K., Chu, T. L., & Tsai, Y. H. (2009). Professional commitment, patient safety, and patient-perceived care quality. *Journal of Nursing Scholarship*, *41*(3), 301-309.
- Trafton, J. G., & Monk, C. A. (2007). Task interruptions. *Reviews of Human Factors and Ergonomics*, *3*(1), 111-126.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, *14*(3), 207-222.
- Tsai, Y., & Wu, S. W. (2010). The relationships between organisational citizenship behaviour, job satisfaction and turnover intention. *Journal of Clinical Nursing*, *19*(23-24), 3564-3574.
- Turner, T. L., Balmer, D. F., & Coverdale, J. H. (2013). Methodologies and study designs relevant to medical education research. *International Review of Psychiatry*, *25*(3), 301-310.
- Uma, S., & Roger, B. (2003). Research methods for business: A skill building approach. New York, John Wiley and Sons Inc.
- Umanath, N. S. (2003). The concept of contingency beyond "It depends": illustrations from IS research stream. *Information Management Decision*, *40*(6), 551-562.
- Umansky, J. (2015). Workload in Nursing: A Descriptive Study Using Cognitive Work Analysis, Thesis. Rochester Institute of Technology. Accessed from <https://scholarworks.rit.edu/theses/8949>
- Van de Ven, A. H., & Drazin, R. (1984). *The concept of fit in contingency theory*. Retrieved from
- Van Dyk, J., & Coetzee, M. (2012). Retention factors in relation to organisational commitment in medical and information technology services. *Journal of Human Resource Management*, *10*(2), 1-11.
- Vecchio, R. P. (1991). Organizational behavior: Sudnay ,Harcourt School.
- Veitenhansl, M., Stegner, K., Hierl, F. X., Dieterle, C., Feldmeier, H., Gutt, B., . . . Sekihara, H. (2004). 40(th) EASD Annual Meeting of the European Association for the Study of Diabetes : Munich, Germany, 5-9 September 2004. *Diabetologia*, *47*(Suppl 1), A1-A464.

- Vigoda, E. (2000). Internal Politics in Public Administration Systems An Empirical Examination of its Relationship with Job Congruence, Organizational Citizenship Behavior, and In-Role Performance. *Public Personnel Management*, **29**(2), 185-210.
- Vigoda, E. (2000). Organizational politics, job attitudes, and work outcomes: Exploration and implications for the public sector. *Journal of vocational Behavior*, **57**(3), 326-347.
- Villeneuve, C. (2011). Fujitsu's Lean Solutions Group—Lean Healthcare in Canada—. *FUJITSU Sci. Tech. J*, **47**(1), 41-48.
- Vituri, D. W., & Évora, Y. D. M. (2015). Total Quality Management and hospital nursing: an integrative literature review. *Revista Brasileira de Enfermagem*, **68**(5), 945-952.
- Vogel, M., Poulain, T., Jurkutat, A., Spielau, U., & Kiess, W. (2018). Basic Epidemiology, Statistics, and Epidemiology Tools and Methods. In *Pediatric Epidemiology* (Vol. 21, pp. 113-142): Karger Publishers.
- Vouzaz, F., & Psychogios, A. (2007). Assessing managers' awareness of TQM. *The TQM Magazine*, **19**(1), 62-75.
- Waddell, A. W. (2009). Cultivating quality: shared governance supports evidence-based practice. *AJN The American Journal of Nursing*, **109**(11), 53-57.
- Wolf, L. D., Potter, P., Sledge, J. A., Boxerman, S. B., Grayson, D., & Evanoff, B. (2006). Describing nurses' work: combining quantitative and qualitative analysis. *Human Factors*, **48**(1), 5-14.
- Wakchaure, V. D., Nandurkar, K. N., & Kallurkar, S. P. (2011). *Development and validation of integrated manufacturing practices model*. Paper presented at the Tenth International Conference on Operations and Management Quatitative (ICOQM-10), Nashik, India.
- Wakefield, B. J., Blegen, M. A., Uden-Holman, T., Vaughn, T., Chrischilles, E., & Wakefield, D. S. (2001). Organizational culture, continuous quality improvement, and medication administration error reporting. *American Journal of Medical Quality*, **16**(4), 128-134.
- Walsworth, S., & Verma, A. (2007). Globalization, human resource practices and innovation: Recent evidence from the Canadian workplace and employee survey. *Industrial Relations: A Journal of Economy Society*, **46**(2), 222-240.
- Wang, C.-H., Chen, K.-Y., & Chen, S.-C. (2012). Total quality management, market orientation and hotel performance: The moderating effects of external environmental factors. *International Journal of Hospitality Management*, **31**(1), 119-129.

- Wardhani, V., Utarini, A., van Dijk, J. P., Post, D., & Groothoff, J. W. (2009). Determinants of quality management systems implementation in hospitals. *Health Policy*, *89*(3), 239-251.
- Warne, M., Snyder, K., & Gådin, K. G. (2014). Adaptation and validation of a positive health scale for adolescents. *Social Indicators Research*, *119*(2), 1079-1093.
- Warshawsky, N. E., & Havens, D. S. (2014). Nurse manager job satisfaction and intent to leave. *Nursing Economic*, *32*(1), 32-45.
- Watson, R., McKenna, H., Cowman, S., & Keady, J. (2008). *Nursing Research: Designs and Methods E-Book:USA*. Elsevier Health Sciences.
- Watson, S. (2018). Impact of a 5S lean intervention on resources use: A quasiexperimental study. *Physical Medicine and Rehabilitation Research*, *3*(3), 1-5.
- Westphal, J. D., Gulati, R., & Shortell, S. M. (1996). The institutionalization of total quality management: the emergence of normative tqm adoption and the consequences for organizational legitimacy and performance. *Paper presented at the Academy of Management Proceedings*.
- Wisner, J. (2009). Principles of Supply Chain Management: A Balanced Approach/Joel D. Wisner, Keah-Choon Tan, G. Keong Leong. *Mason, OH: South-Western Cengage Learning*.
- Wolf, K., & Schiller, M. R. (1997). Dietetics and foodservice personnel are ready for team problem solving. *Journal of the American Dietetic Association*, *97*(9), 997-1002.
- Wood, E., Zivcakova, L., Gentile, P., Archer, K., De Pasquale, D., & Nosko, A. (2012). Examining the impact of off-task multi-tasking with technology on real-time classroom learning. *Computers & Education*, *58*(1), 365-374.
- Wood, N. D., Akloubou Gnonhosou, D. C., & Bowling, J. W. (2015). Combining parallel and exploratory factor analysis in identifying relationship scales in secondary data. *Marriage family review*, *51*(5), 385-395.
- Woodward, J. (1980). *Industrial organization; theory and practice*. Retrieved from
- Wright, T. A., & Bonett, D. G. (2002). The moderating effects of employee tenure on the relation between organizational commitment and job performance: a meta-analysis. *Journal of Applied psychology*, *87*(6), 1183.
- Yang, F.-H., & Chang, C.-C. (2008). Emotional labour, job satisfaction and organizational commitment amongst clinical nurses: A questionnaire survey. *International Journal of Nursing Studies*, *45*(6), 879-887.

- Yang, N.-Y., & Moon, S.-Y. (2011). Relationship of self-leadership, stress and satisfaction in clinical practice of nursing students. *Journal of Korean Academy of Nursing Administration*, *17*(2), 216-225.
- Yu, S., & Ko, Y. (2016). Communication competency as a mediator in the self-leadership to job performance relationship. *Collegian*, *24*(5), 421-425.
- Zack, M. H. (1999). Managing codified knowledge. *Sloan Management Review*, *40*(4), 45-58.
- Zack, M. H. J. S. m. r. (1999). Managing codified knowledge. *40*(4), 45-58.
- Zairi, M., & Alsughayir, A. A. (2011). The adoption of excellence models through cultural and social adaptations: An empirical study of critical success factors and a proposed model. *Total Quality Management & Business Excellence*, *22*(6), 641-654.
- Zakuan, N., Yusof, S., Shaharoun, A., & Laosirihongthong, T. (2010). Proposed relationship of TQM and organizational performance using structured equation modeling. *Quality Control Applied Statistics*, *55*(3), 283-285.
- Zamil, A. M., Areiqat, A. Y., & Tailakh, W. (2012). The impact of health service quality on patients' satisfaction over private and public hospitals in Jordan: a comparative study. *International Journal of Marketing Studies*, *4*(1), 123.
- Zehir, C., Ertosun, Ö. G., Zehir, S., & Müceldilli, B. (2012). Total quality management practices' effects on quality performance and innovative performance. *Procedia-Social and Behavioral Sciences*, *41*, 273-280.
- Zhao, S., Liu, L., & Chen, H. (2015). Factors influencing the occupational well-being of experienced nurses. *International Journal of Nursing Sciences*, *2*(4), 378-382.
- Zingmark, M., & Bernspång, B. (2011). Meeting the needs of elderly with bathing disability. *Australian Occupational Therapy Journal*, *58*(3), 164-171.
- Zu, X. (2009). Infrastructure and core quality management practices: how do they affect quality? *International Journal of Quality & Reliability Management*, *26*(2), 129-149.
- Zu, X., Robbins, T. L., & Fredendall, L. D. (2010). Mapping the critical links between organizational culture and TQM/Six Sigma practices. *International Journal of Production Economics*, *123*(1), 86-106.

BIODATA OF STUDENT

Majid Mousa Alzoubi was born in Irbid city in Jordan in 1984. he completed his primary school from Abi Tamm Elementary School, and then completed his secondary school from Mousab school in Irbid city. He graduated with a First Class Bachelor's Degree in Nursing in January 2007 from the faculty of Nursing at Jordan University of Science and Technology, and obtained his Master Degree in Management of Health Services from the Royal College of Surgeons in Ireland , He started his first job in February 2011 as a Clinical Instructor in the Faculty of Nursing/ University of Jordan, , in 2010 he started a new job as a Quality Specialist in Ministry of Health in Jordan ,when he joined his PhD program in Health Service Management at Universiti Putra Malaysia.



LIST OF PUBLICATIONS

- Majdi M. Alzoubi, *Hayati K. S., Rosliza A. M., Ahmad A. A., Al-Hamdan Z. M. (2018). Total quality management intervention for enhancing nursing commitment and performance in Jordanian hospital: protocol of a quasi-experimental study. *International Journal of Advanced Scientific Research & Development*. Vol. 05(10) Ver. I. Oct 2018. Pg. 1 – 12.
- Alzoubi, M. M., Hayati, K. S., Rosliza, A. M., Ahmad, A. A., & Al-Hamdan, Z. M. (2019). Total quality management in the health-care context: integrating the literature and directing future research. *Risk Management and Healthcare Policy*, 12, 167.
- Majdi M. Alzoubi, *Hayati K. S., Rosliza A. M., Ahmad A. A., Al-Hamdan Z. M. (2019). Effect of TQM Intervention on Nurse Commitment and Nurse Performance: A Quasi-Experimental Study. *ISI , BMC* .
- Majdi M. Alzoubi, *Hayati K. S., Rosliza A. M., Ahmad A. A., Al-Hamdan Z. M. (2019) Preliminary results on quality management for Nurses performance and commitment: a case study of government hospitals in Jordan.(IIUM)
- Majdi M. Alzoubi, *Hayati K. S., Rosliza A. M., Ahmad A. A., Al-Hamdan Z. M.(2019) Factors Predicting Nurse Commitment in the Jordanian Hospitals. *International Journal of Public Health and Clinical Sciences* , 2019 (2289-7577).



UNIVERSITI PUTRA MALAYSIA

STATUS CONFIRMATION FOR THESIS / PROJECT REPORT AND COPYRIGHT

ACADEMIC SESSION : First Semester 2019/2020

TITLE OF THESIS / PROJECT REPORT :

EFFECTIVENESS OF TOTAL QUALITY MANAGEMENT INTERVENTION ON NURSING
JOB PERFORMANCE AND COMMITMENT IN GOVERNMENT HOSPITALS IN IRBID,
JORDAN

NAME OF STUDENT: MAJDI MUSA MOHAMMAD AL ZOUBI

I acknowledge that the copyright and other intellectual property in the thesis/project report belonged to Universiti Putra Malaysia and I agree to allow this thesis/project report to be placed at the library under the following terms:

1. This thesis/project report is the property of Universiti Putra Malaysia.
2. The library of Universiti Putra Malaysia has the right to make copies for educational purposes only.
3. The library of Universiti Putra Malaysia is allowed to make copies of this thesis for academic exchange.

I declare that this thesis is classified as :

*Please tick (✓)

CONFIDENTIAL

(Contain confidential information under Official Secret Act 1972).

RESTRICTED

(Contains restricted information as specified by the organization/institution where research was done).

OPEN ACCESS

I agree that my thesis/project report to be published as hard copy or online open access.

This thesis is submitted for :

PATENT

Embargo from _____ until _____
(date) (date)

Approved by:

(Signature of Student)
New IC No/ Passport No.:

Date :

(Signature of Chairman of Supervisory Committee)
Name:

Date :

[Note : If the thesis is CONFIDENTIAL or RESTRICTED, please attach with the letter from the organization/institution with period and reasons for confidentiality or restricted.]