Original Article

Competency of Nurses in the Context of Philippine Healthcare

Evelyn Feliciano, RN, PhD
Assistant Professor, Department of Nursing, College of Applied Medical Sciences, Majmaah University, Al-Majmaah, 11952, Saudi Arabia
 College of Nursing, Angeles University Foundation, Angeles, 2009, Philippines

Alfredo Feliciano, RN, PhD
Assistant Professor, College of Nursing, Angeles University Foundation, Angeles, Philippines

Lara Vanessa Feliciano-Pena, RN, MD
Family Nursing Practice Department, United States University, Los Angeles, 90032, United States of America

Paulo Carl Mejia, RN, DNS, DNM
Assistant Professor, Department of Nursing, Al Ghad International College for Applied Medical Sciences, Najran, 61441, Saudi Arabia

Abdalla Osman, RN PhD
Assistant Professor, Department of Nursing, Al Ghad International College for Applied Medical Sciences, Najran, 61441, Saudi Arabia

Correspondence: Dr. Evelyn E. Feliciano, Asst. Professor, Department of Nursing, College of Applied Medical Sciences, Majmaah University, Al-Majmaah, 11952, Kingdom of Saudi Arabia Email address: feliciano.evelyn.e@gmail.com .

Abstract

Background: Annual rates of rising medical negligence and errors brought considerable burden and unfortunate contribution to mortality of the public that sought healthcare. There is no single definitive assessment tool in understanding the competency of nurses who comprise a majority of the labor workforce in healthcare, thus, led to a recognition of its relative dimension to better provide a clearer picture in the context of Philippine healthcare.

Aim: To identify nurses' demographic and work-related profile, as selected factors capable of establishing an influence on their competency dimensions in the context of healthcare delivery.

Method: A descriptive-correlational research determined the 211 registered nurses' competency from selected private and public hospitals of Central Luzon.

Results: Most of the nurses' demographic profile showed: mean age of 31.64 years old (SD=2.64), 146 (69.20%) single, 131 (62.10%) female, 162 (76.80%) under staff nurse position, 128 (60.70%) under 1 to 30 years of service (mean=6.43, SD=1.85) that had monthly salary of Php 6,000-60,000 (mean=17.951, SD=3.68). Generally, positive perceptions towards nurses' competency were observed (mean=4.49, SD=0.55). More specifically, 'legal/ ethical practice' received the highest mean score (mean=4.60, SD=0.55) and 'teaching-coaching' got the lowest (mean=4.36, SD=0.62) among the seven-dimension competency scale. Moreover, higher level of competency was perceived among permanently employed (than non-permanent) and a specific nature of work (than the other fields). With the use of multivariate analyses, it was noted that demographic and work-related profile showed significant relationship.

Conclusion: The context of Philippine healthcare was presented in the light of nurses, whose competency was influenced by demographic (marital) and work-related (nature of work, salary, length of service, permanent level). Ultimately, the results paved the way for theoretical reinforcement that proceeds in literature reviews on the dimensions that have an immense impact on nurses' competency.

Keywords: competency, healthcare, nursing competency, Philippines

Introduction

Lowen et al. (2015) asserts that behavioral adaptation emanates from the use of acquired knowledge of the past. Learning competencies, an unremitting process (Whelan, 2006) is required for an individual to obtain the needed knowledge and skills in the performance of required duties (Kieft, 2014), more so to act on a professional basis (Tan, Sanchez & Balanon, 2005). Consistency is required in all learning opportunities for nurses who strive to function within the scope of professional practice with specific attention on safety and quality. If found deficient in competencies, there is a compelling need for experts to guide nurses in ensuring that they are familiarized with evidence-based practice in nursing. It is unfortunate to note, however, that clinical errors and malpractice are on the rise due to nurses' incompetence. They significantly resulted to death and disability of patients yearly (Kahriman & Ozturk, 2016) due to medication errors (Preston, 2004) emanating from professional deficiencies, incompetence and imprecisions (Oldridge et al., 2004). Likewise, a study required the presence of a well-defined demarcation of competencies that will be regarded in the literature as dimensions of nurses' competency (Mustard, 2002). Essentially, healthcare members are expected to maintain quality and precision of care in the service of the public geared towards promotion of health, prevention of diseases and facilitation of treatment and rehabilitation.

Promoting a positive environmental manipulation through behavioral changes gathered from previous knowledge and experience is an expected capacity of a competent individual (Lowen et al., 2015). Souza and Alves (2015) point out that competence is defined not only by knowledge but with properly crafted execution of actions that are reflective of high level of professionalism as well. Moreover, nurses who value patient safety are reflections of competence, which can further explicate the idea that relationship exists between clinical competencies and fulfillment to safety care protocols such as prevention of nosocomial infection through meticulous and regular stethoscope care (Feliciano et al., 2019; Mejia et

al., 2019). Negligent nurses undoubtedly risk their patients' lives claiming in a report of about 88.5% of nurses' malpractice from 2010 to 2014 (Nurses Service Organization, 2016) by the nurses who reported burden, fatigue and stress in the workplace; and by healthcare inconsistencies and disorganization (Wheeler et al., 2018). Meanwhile, malpractice cases accounted for 41.46% and 30.79% that were connected to diagnosis and treatment respectively (Sweeney, LeMahieu & Fryer, 2017). These figures cannot be condoned but certainly can be eliminated, if not reduced.

Nurses are confronted with both external and internal demands where they need further education and training amidst advancing technology, require resourcefulness in the face of scarcity of hospital supplies, and demand appropriate adjustment whenever the needs arise in the form of adverse working circumstances (Tzeng & Ketefian, 2003). Despite these certain unfavorable conditions, nurses' competence in the workplace must be still emphasized to ensure that healthcare delivery is geared towards quality and safety. A holistic approach in competency may not be visibly acknowledged but can be reflected through performance of required duties reviewed through quantifiable accomplished responsibilities (Clinton, Murrells & Robinson, 2005). Evaluating nurses' competency in general challenges several modalities (Redfern et al., 2002) yet only a few of literature reviews that pertain to measuring nursing competency exists and this prompted the researchers to pursue in understanding nursing competency in the context of healthcare in the Philippines. Such interest was established on the fact that nurses' competencies have a direct commitment to serve the recipients of healthcare and the absence of published researches finally motivated the researchers to determine significant relationship between nurses' profile and competency level.

The research's aims revolved around the nursing administration in its role in facilitating an intensive evaluation of the nurses' competency with emphasis on the areas that need improvement to further their craft. The assessment of competency stems from the nurses' ability to function within

their scope of practice with emphasis on quality and safety and establishing good working relationships with healthcare team members with particular attention on work ethics and credibility. Furthermore, this study aimed at identification of relevant factors that may have an influence in the nurses' overall level of competency that may also be observed in other nursing fields and institutions.

Aim of the study

The research identified the nurses' demographic and work-related profile, as selected factors capable of establishing an influence on their competency dimensions in the context of healthcare delivery in selected private and public hospitals of Central Luzon, Philippines.

Methods

Research Design: Descriptive correlational design was utilized in the research.

Setting and Samples: A total of two hundred eleven nurses from both government and non-government healthcare facilities (150 to 250 bed-capacity) were gathered through purposive sampling. The respondents were registered nurses, under permanent, casual, job-order and staff position presently employed in general ward or special areas and had consented to participate in the research.

Research Instrument: The research instrument encompassed two (2) sections where the first part inquired about the nurses' demographic and work-related profile (age, gender, marital and employment status, length of service, salary, years from graduation and present field or area of assignment). Meanwhile, the second part contained the Competency Inventory for Registered Nurses (CIRN), a standardized tool that has a total of seven (7) dimensions distributed on the 59 items in the questionnaire in the form of a Likert scale (Ming, 2007; Ying, Kunaviktikul & Tonmukayakal, 2007).

Ethical Consideration: The Ethical Committee of Mindanao State University's College of Health Sciences approved the conduct of the research. Informed consent was secured from all the included respondents and emphasized confidentiality and anonymity in the whole course of the research.

Data Analysis: The research utilized SPSS version 24 software package where data were described (mean and standard deviation) and correlated (ANOVA, t-test and Pearson product moment correlation). Moreover, the multivariate test of significance analysis was applied to assess the degree of relationship between demographic and work-related profile and nurses' competency level.

Results

Nurses' demographic and work-related profile: Illustrated in Table 1, the nurses' profile showed: mean age of 31.64 (21-60 years old; SD= 2.46), single (146 or 69.20%), female (131 or 62.10%), permanently employed (162 or 76.80%), staff nurse position (128 or 60.70%), 1-30 years of service (mean=6.43, SD=1.85), salary of Php 6,000-60,000 (mean=17.951, SD=3.68).

Perception on nurses' competency: Nurses' competency is shown in Table 2 where overall mean score of 4.49 (positive perception) was determined. Among the seven (7) dimensions in the CIRN, 'legal/ ethical practice' got the highest mean score (mean=4.60, SD=0.55) while 'teaching-coaching' received the lowest mean score (mean=4.36, SD=0.62).

Relationship between nurses' demographic and work-related profile regarding perception of nursing competency: Table 3 presents the nurses' competency level that is significantly related with their demographic and work-related profile. As observed, permanent nurses demonstrated higher competency level than those who are non-permanent. In terms of nature of work, staff nurses exhibited higher competency as compared with other fields of work.

Multivariate analyses for test of significance using Wilk's Lambda test on CIRN's dimensions: Table 4 stressed the significant relationship between nurses' demographic and work-related profile and nursing competency after the employed multivariate analyses.

Table 1. Nurses' demographic and work-related profile

Profile		f	%
Gender	Male	80	37.9
	Female	131	62.1
Marital status	Single	146	69
	Married	65	30.9
Employment status	Permanent	162	76.8
	Non-permanent	49	23.2
Nature of work	Staff nurses	128	60.7
	Nursing educators	41	19.4
	Occupational health nurse	25	11.9
	Public health nurse	17	8.1
		x	SD
Age	21-60	31.64	2.46
Salary (Php)	Php 6,000-60,000	17,951	3.68
Length of service (years)	1-30	6.43	1.85

Table 2. Perception of nurses' competency

Competency dimensions	x	SD
Critical thinking and research aptitude	4.41	0.60
Clinical care	4.49	0.58
Leadership	4.56	0.54
Interpersonal relationships	4.54	0.54
Legal/ethical practice	4.60	0.55
Professional-development	4.47	0.56
Teaching-coaching	4.36	0.62
Overall	**4.49**	**0.88**

Table 3. Relationship between nurses' demographic and work-related profile regarding perception of nursing competency

Profile	Nurses' competency		
	x ± SD	p	Statistical test
Gender			
Male	4.47± 0.76	0.188	t = -1.52
Female	4.60±0.31		
Marital Status			
Single	4.47± 0.037	0.352	t = 1.51
Married	4.49± 0.092		
Employment Status			
Permanent	4.60 ± 0.89	<.001***	t = 1.07
Non-permanent	4.49± 0.76		
Nature of work			
Staff nurses	4.89 ± 1.54	.025*	F = 2.35
Nursing educators	4.67 ±2.31		
Occupational health nurse	4.75 ±2.89		
Public health nurse	4.23 ±3.67		
Age			
21-60	31.64	0.279	r = -0.01
Salary (Php)			
Php 6,000-60,000	17,951	0.812	r = 0.11
Length of Service (years)			
1-30 years	6.43	0.921	r = 0.04

*Note. *Significant at 0.05 level, **Significant at 0.01 level, ***Significant at 0.001 level*

Table 4. Multivariate analyses for test of significance on CIRN's dimensions

Effect	Value	f	Hypothesis df	Error df	p
Gender	.959	1.469(a)	6	205	.190
Marital Status	.160	176.792(a)	6.000	202.000	<.001***
Employment Status	.961	1.402(a)	6.000	205.000	.215
Nature of work	.672	2.292	6	198.	<.001***
Employment Status					
Age	.755	1.374	6	932.154	.059
Salary (Php)	.730	1.186	6	196.000	.024**
Length of Service (years)	.817	1.384	6	802.000	<.001***

*Note. *Significant at 0.05 level, **Significant at 0.01 level, ***Significant at 0.001 level, a. Exact statistic*

Discussion

Grounded on the results of the research, most of the nurses exhibited high level of competency in the dimension on legal and ethical practice owing to the idea that they demonstrated high scores on compliance to organizational protocols, respect to the rights of patients and task performance according to legal and ethical values. Aside from the fact that they capable of practicing the profession within its legal bounds, nurses' education and related experience are adequate to meet the prescribed duties and responsibilities (Kozier et al., 2004). Likewise, performance of professional responsibilities in cognizance of existing polices and protocols (Aiken, 1994) is also an indicator of high level of competency on this dimension. In the same way, it is imperative for nurses to provide healthcare that is legally accepted and at the same time within the scope of institutional policies, systems and processes (Kozier et al., 2004; Boese, Butcher & Haynes, 2004; Leddy & Pepper, 2003). Nurses should act within their advocacy functions as they avoid causing harm or injury to their patients. It is unfortunate to note, however, that there are some non-reported cases of possibly perilous practices that nurses commit (Wirtz, Taxis & Barber, 2003) owing to their hesitancy towards documentation of any form of malpractice (Alkhenizan & Shafiq, 2018), embarrassment and resultant sanction.

Teaching-coaching skills, clinical care and interpersonal relationship are interrelated with emphasis on the nurses' role of promoting enhanced learning and rendering care through demonstration with the primary goal of fostering patient's autonomy, eventual recovery (Western Pacific Region, 2008) and optimal level of functioning (Bally, 2007). Moreover, communication is essentially critical skill with the aim of influencing and educating these individuals who are in need of learning (Ying, Kunaviktikul & Tonmukayakal, 2007) Conversely, there are reports of burdened work along with inadequate support and limited time among nurses, which often compromise these roles (Adejumo & Guobadia, 2013).

Hospitals are often regarded as the usual learning arena for nurses to develop critical thinking skills and research aptitude (Kozier et al., 2004; Rischel, Larsen & Jackson, 2008; Keenan, 2003; US Department of Health and Human Services, 2010) due to the fact that it is in hospitals where direct patient care is delivered (Tan, Sanchez & Balanon, 2005; McCormack & Slater, 2006). Despite the surplus of nurses Philippines has (Tranquilino, 2012), it is alarming to witness the influx of nurses to other countries such as the United States (US Department of Health and Human Services, 2010) that offer higher compensation which eventually affects the pool of competent nurses that remain in the country (Cuartero, 2014). Poor working conditions of nurses who work as volunteers (Lavoie-Tremblay et al., 2008) for the required experience and lack of employment opportunities placed them in a predicament to find other jobs that often are unrelated to their profession (Buerhaus, Staiger & Auerbach, 2000; Buchan & Seccombe, 2005; Spetz, 2011).

It is significant to note that marital status showed an indication of competency although there seems to be no literature review to support such claim. Exploration on this idea, as a recommendation is aimed to determine the reason behind such significant correlation. Moreover, the role of salary in motivating and improving nurses' performance suggested correlation (Unruh, 2008; O'Brien et al., 2006; Griffiths et al., 2010. Despite the entry-level salary recommendation of the Philippine Nursing Law of 2002 of about Php 13,300 monthly, it is critical to note the painstaking circumstance that nurses only receive a monthly salary of Php 6,000 to 10,999 (Gamolo, 2008).

Competencies are crucial in the work environment (Boese, Butcher & Haynes, 2004) and are essential elements that make up a consistent process of ascertaining quality healthcare delivery (Whelan, 2006). Younger nurses can develop critical thinking through time and experience (Kozier et al., 2004; Rischel, Larsen & Jackson, 2008) exemplified by the observation among them that usually after a year, new nurses' adjustment and development of personal and professional qualities (Lavoie-Tremblay et al., 2008; Buerhaus & Auerbach, 2000; Buchan & Seccombe, 2005) emerge. Nurse leaders in turn have the responsibility in maintaining a healthy working environment that fosters competency among nurses

(Joint Commission on Accreditation of Healthcare Organizations, 2002).

Conclusion: The research presented the nurses' competency in the context of Philippine healthcare where they demonstrated high level of competency in their workplace. Marital status, nature of work, salary, length of service and permanence of work establish significant influence on nurses' competency level. The results ultimately provide a unique reinforcement on previous knowledge and literature on variables that certainly have an influence of nurses' competencies.

Informed Consent: Informed consent was taken from all nurses in the study that reflected their willingness to participate.

References

Adejumo, P. and Guobadia, P. (2013). Nurses' Attitude to Reading Research Articles and their Perception of Research Utilization in Clinical Practice in a Nigerian City. *Journal of Biomedical Sciences, 12*(1), 46-56.

Aiken, T. D. (1994). *Legal, Ethical, and Political Laws in Nursing*. 2nd Edition. Philadelphia: F.A. Davis Company, 45.

Alkhenizan, A. H., & Shafiq, M. R. (2018). The process of litigation for medical errors in Saudi Arabia and the United Kingdom. *Saudi medical journal*, *39*(11), 1075–1081.

Bally, J. (2007). The role of nursing leadership in creating a mentoring culture in acute care environments. *Nurs Econ, 25*(3), 143-8.

Boese, T., Butcher H.K., and Haynes L.C. (2004). *Nursing in Contemporary Society – Issues. Trends, and Transitions to Practice.* New Jersey: Pearson Prentice Hall. 152, 187, 199, 200.

Buchan, J., and Seccombe, I. (2005). Past Trends, Future Imperfect? A Review of the UK Nursing Labour Market 2004 to 2005. London: Royal College of Nursing (RCN). https://www.rcn.org.uk/professional-development/publications/pub-002760

Buerhaus PI, Staiger DO, Auerbach DI (2000). Implications of an Aging Registered Nurse Workforce. *JAMA, 283*(22), 2948–2954.

Clinton, M., Murrells, T., and Robinson, S. (2005). Assessing Competency in Nursing: A Comparison of Nurses Prepared through Degree and Diploma Programmes. *Journal of Clinical Nursing, 14*, 82-94.

Cuartero, N. (2014). Nursing Different Career Paths. Accessed from http://www.mb.com.ph/nursing-different-career-paths/#2Mwmj7F553Db9qKo.99

Feliciano, A., Feliciano, E., Mejia, PC., Boshra, A., Feliciano, JR., Osman, A. et al. (2019). Exploring the Practices Employed by Nurses in Stethoscope Care. *Int J of Allied Med Sci and Clin Res, 7*(2), 385-395.

Gamolo. N.O. (2008). Nurses: Hike pay will deter us from leaving the country. http://manilatimes.net.national/2008/July/27/yehey/ofw/20080727ofw3.html

Griffiths P, Murrells T, Maben J, Jones S and Ashworth M (2010). Nurse Staffing and Quality of Care in UK General Practice: Cross-Sectional Study Using Routinely Collected Data. *British Journal of General Practice, 60*(570), 36-48.

Joint Commission on Accreditation of Healthcare Organizations (2002). Nursing Shortage Poses Serious Health Care Risk. Washington, D.C.: JCAHO. http://www.truthaboutnursing.org/faq/short_staffed.html#ixzz2GNXCCnHT

Kahriman, İ. and Öztürk, H. (2016), Evaluating medical errors made by nurses during their diagnosis, treatment and care practices. *J Clin Nurs, 25*, 2884-2894.

Keenan, P. (2003). The nursing workforce shortage: causes, consequences, proposed solutions. *Issue Brief (Commonw Fund), 20*(619), 1-8.

Kieft, R. A., de Brouwer, B. B., Francke, A. L., & Delnoij, D. M. (2014). How nurses and their work environment affect patient experiences of the quality of care: a qualitative study. *BMC health services research*, *14*, 249

Kozier, B., Berman A. Erb., G., and Snyder S. (2004). *Fundamentals of Nursing*. 7th Edition. Philadelphia: Pearson Prentice Hall. 254, 442-443, 523.

Lavoie-Tremblay, M. et al. (2008). Addressing the Turnover Issue among New Nurses from a Generational Viewpoint. *Journal of Nursing Studies, 16*(6), 724-733.

Leddy, S. and Pepper J.M. (2003). *Conceptual Bases of Professional Nursing*. 5th Edition. Philadelphia: Lippincott Williams and Wilkins. 334.

Lowen, I. M. V., Peres, A. M., Crozeta, K., Bernardino, E., & Beck, C. L. C. (2015). Managerial nursing competencies in the expansion of the Family Health Strategy. *Revista da Escola de Enfermagem da USP, 49*(6), 967-973.

McCormack, B. & Slater, P. (2006), An evaluation of the role of the clinical education facilitator. *Journal of Clinical Nursing, 15*, 135-144.

Mejia PC, Osman A, Yngente AK, Feliciano E (2019). The relationship between professional nursing competencies and key performance indicators (KPIs) for patient safety outcomes among the Filipino staff nurses in selected private secondary hospitals in the Philippines. *European Journal of Pharmaceutical and Medical Research, 6*(1), 404-9.

Ming, L. (2007). Development of Competency Inventory for Registered Nurses in the People's Republic of China: Scale Development. Science Direct: *International Journal of Nursing Studies, 44*(5), 805-813.

Mustard, L. W. (2002). Caring and Competency. *JONA's Healthcare Law, Ethics, and Regulation, 4*(2), 36–43. https://journals.lww.com/jonalaw/Abstract/2002/06000/Caring_and_Competency.6.aspx

Nurses Service Organization (2016). More nurses, hospitalists being sued for malpractice, studies say. https://www.reliasmedia.com/articles/137567-more-nurses-hospitalists-being-sued-for-malpractice-studies-say

O'Brien-Pallas, L., Griffin, P., Shamian, J., Buchan, J., Duffield, C., Hughes, F., … Stone, P. W. (2006). The Impact of Nurse Turnover on Patient, Nurse, and System Outcomes: A Pilot Study and Focus for a Multicenter International Study. *Policy, Politics, & Nursing Practice, 7*(3), 169–179.

Oldridge, G., Gray, K., McDermott, L. and Kirkpatrick, C. (2004). Pilot Study to Determine the Ability of Health-Care Professionals to Undertake Drug Dose Calculations. *Internal Medicine Journal, 34*, 316-319

Preston, R. (2004). Drug Errors and Patient Safety: The Need for a Change in Practice. *British Journal of Nursing, 13*(2), 72-78.

Redfern, S., Norman, I. J., Calman, L., Watson, R., & Murrells, T. (2002). Assessing Competence to Practice in Nursing: A Review of Literature. *Research Papers in Education, 17*(1), 51-77.

Rischel, V., Larsen, K, & Jackson, K. (2008). Embodied dispositions or experience? Identifying new patterns of professional competence. *Journal of Advanced Nursing, 61*(5), 512-21.

Rischel, V., Larsen, K. and Jackson, K. (2008), Embodied dispositions or experience? Identifying new patterns of professional competence. *Journal of Advanced Nursing, 61*, 512-521.

Sousa, J. M. & Alves, E. D. (2015). Nursing competencies for palliative care in home care. *Acta Paulista de Enfermagem, 28*(3), 264-269.

Spetz, J. (2011). Registered Nurses Survey of 2010. Conducted for the California Board of Registered Nursing by the University of California, San Francisco School of Nursing. http://www.ca.board_of_nursing_survey2010/nursing_report.pdf

Sweeney CF, LeMahieu A, Fryer GE (2017). Nurse practitioner malpractice data: Informing nursing education. *Journal of Professional Nursing, 33*(4), 271-275.

Tan, J. Sanchez, F. & Balanon, V. (2005). The Brain Drain Phenomenon and Its Implications to Health. LlP Alumni Council Meeting on 24 June 2005 at l.lP Diliman, Quezon City, Philippines. http://lynchlibrary.pssc.org.ph:8081/bitstream/handle/0/3821/10_The%20Brain%20Drain%20Phenomenon%20and%20its%20Implications%20to%20Health.pdf?sequence=1

Tranquilino, C. (2012). Republic of the Philippines. House of Representatives. http://www.congress.gov.ph/download/billtext_13/HB02700.pdf

Tzeng, H.M and Ketefian, S. (2003). Demand for Nursing Competencies: An Exploratory Study in Taiwan's Hospital System. *Journal of Clinical Nursing, 12,* 509–518. https://www.ncbi.nlm.nih.gov/pubmed/?term=Demand+for+Nursing+Competencies%3A+An+Exploratory+Study+in+Taiwan's+Hospital+System

U.S. Department of Health and Human Services, 2010Spetz, J. (2011). Registered Nurses Survey of 2010. Conducted for the California Board of Registered Nursing by the University of California, San Francisco School of Nursing. https://www.rn.ca.gov/pdfs/forms/survey2010.pdf

Unruh, L. (2008). Nurse Staffing and Patient, Nurse, and Financial Outcomes. *American Journal of Nursing, 108*(1), 62-71.

Western Pacific Region (2008). The Role of the nurse on the health care team. http://www.wpro.who.int/internet/files/pub/85/1-6.pdf

Wheeler, A. J., Scahill, S., Hopcroft, D., & Stapleton, H. (2018). Reducing medication errors at transitions of care is everyone's business. *Australian prescriber, 41*(3), 73–77. https://doi.org/10.18773/austprescr.2018.021

Whelan, L. (2006). Competency assessment of nursing staff. *Orthop Nurs, 25*(3), 198-202.

Wirtz, V., Taxis, K and Barber, N. (2003). An Observational Study of Intravenous Medication Errors in the United Kingdom and in Germany. *Pharmacy World Science, 25*(3), 104-111.

Ying, L., Kunaviktikul, W., and Tonmukayakal O. (2007). Nursing Competency and Organizational Climate as Perceived by Staff Nurses in a Chinese University Hospital. *Nursing and Health Sciences, 9*(3), 221-227