Exploring the Magnet hospital work environment: An integrative literature review

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2019 Laurea
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Global Development and Management in Healthcare
Master’s Thesis
December, 2019
Abstract

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Year 2019 Pages 105

Work environment has a major impact on nurses’ and patients’ outcomes. High nurse turnover, burnout, job dissatisfaction, increased emotional exhaustion, and clinical errors are the burning healthcare issues associated with poor nurse work environment in the contemporary era. Magnet hospital has been renowned for better patient and nurse outcomes because of their positive nurse work environment attributes.

The aim of this integrative literature review (ILR) was to provide evidence on the role of the Magnet hospital work environment attributes on nurses’ and patients’ outcomes. Additionally, this ILR aimed at providing knowledge and framework on how these attributes can be implemented in any other healthcare settings. The ILR was made as a cooperation work between Laurea UAS and Helsinki University Hospital (HUS). It provided evidence-based theoretical background on the Magnet hospital work environment for the nurses of HUS and assists in the Magnet application process and in flourishing the Magnet culture in their work environment. HUS is the first hospital organization in Finland that is applying for Magnet designation.

Data search was carried out on five databases. After the data reduction process, twenty-four references were selected for final inclusion. The selected references were four qualitative studies, fifteen observational studies, two systematic reviews, two mixed method studies, and one integrative review. Using various assessment tools, the references were appraised for quality assessment. Data from the primary studies were extracted and synthesized.

The results provided evidences that Magnet hospitals have better professional practice environment, nurse and patient outcomes. The results showed that it is the combination of Magnet special structures; shared governance, transformational leadership, nursing leadership, structural empowerment and the eight attributes of EOM that contribute to improvement in nurse work environment, better nurse outcomes, enhance patient safety and overall organizational efficiency. The results also highlight the role of nurse manager in empowering nurses. Nurse managers in Magnet hospital are highly empowered which enable them to support and empower nurses optimally. The literatures also showed some contradictory findings in relation to Magnet hospital outcomes. Some of the studies demonstrated that the outcomes are similar or no better than non-Magnet hospitals. Likewise, some studies were found to be unclear on proving whether better outcomes were due to other factors than the Magnet designations.

Nurse work environment attributes have a high impact on nurses, patients and organizational outcomes. Therefore, it is recommended for healthcare leaders to improve nurse work environment. The ILR provides knowledge for healthcare organizations who are applying for Magnet designation. The review brought forefront the fact that the work environment attributes of Magnet hospital can be procreated in other health settings independent of the Magnet designation through Magnet hospital’s special features and structural empowerment.

Keywords: Magnet hospital, Work environment attributes, Patient and nurse outcome.
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Introduction

Nurses play the central role in providing quality care and patient’s safety as an essential human resource in hospital (Olds, Aiken, Cimiotti & Lake 2017, 155). Clinical nursing is a high-pressure job due to the required intensive amount of social interaction, the complexity and unexpected changes in patient’s care (Tucker, Harris, Pipe & Stevens 2010, 256-257; Zeigen 2016, 2). According to the Joint Commission on the Accreditation of Healthcare Organizations (2008) the nursing shortage is one of the leading issues that is related to poor work environment and challenges hospital administrators. Due to these facts, nurses these days are faced with constant patient work overload and lack of enough staffs. Nurses, already working in a complex environment can produce negative outcomes by affecting the well-being of the nurses and quality of patient care respectively if they encounter such conditions (Tucker et al. 2010, 257; Mchugh & Ma 2014, 72; Nantsupawat, Kunaviktikul, Nantsupawat, Wichaikhum, Thienthong & Phogosyan 2017, 91-98). Janakiraman, Berry & Parish (2011) stressed that a hospital could be a toxic work environment indicated by unsafe working environment, back injuries, long working hours, mandatory overtime, and shortage of staff.

At present, healthcare is in turbulent stage marked by high service demands and a critical shortage of qualified nurses (Boamah & Laschinger 2012, 2). The critical shortage is due to the high ageing workforce and alarmingly high nurses’ turnover (Boamah & Laschinger 2012; AACN 2019). According to World Health Organization the nursing shortage will increase over the next decade (Haddad, Tammy & Toney-Butler 2019). In spite of various workplace strategies, no solution approach has been evident to the present nurse shortage. Hence, healthcare leaders confront a challenge today to create working conditions that attract, develop and retain nurses. (Boamah & Laschinger 2012, 2.)

Globally, healthcare errors and injuries take millions of lives every year resulting in patient death and massive healthcare cost for healthcare organizations (Andel, Davidow, Hollander & Moreno 2012, 39; Jha, Larizgoitia, Audera, Prasopa, Waters & Bates 2013, 809; Makary & Daniel 2016, 1-5; Olds et al. 2017, 156). A recent report (Andel et al. 2012, 39) showed that approximately 200000 Americans die from preventable medical errors as well as the Canadian Adverse Events study reported that about 36.9% adverse events were highly preventable (Baker et al. 2004, 1678). Healthcare administrators have been seeking to identify organizational traits that could decrease patient mortality and morbidity related to adverse events.
The nurse work environment has been identified as a significant, and amendable organizational feature that affects on patient outcomes (Olds et al. 2017, 156). The Institute of Medicine (IOM) in its report states that healthy nurse work environment is the significant constituent for improving patient safety and is assumed to provide patient safety related with reduction in clinical nurses’ errors. Furthermore, it notifies that the quality of patient care is highly influenced by the level of empowerment vested upon nurses to make decisions on patient care and central role in organizational decision making (IOM 2003), which is also addressed by other studies (Bomaoh & Laschinger 2012, 2).

Numerous studies, to a larger extent, in hospital settings have shown that, nursing shortage is associated to poor work environment (AACN 2019; Copanitsanou, Fotos, & Brokalaki 2017, 172; Janakiraman, et al. 2011, 36; Kramer & Schalmenberg 2008, 58; Munyewende, Rispel & Chirwa 2014, 2; Nantsupawat et al. 2017, 92; Mchugh & Ma 2014, 72). The turnover of nurses is the main reason for the human resource shortage in hospitals. About 25 % of the nurses leave their new jobs within a year due to unhealthy work environment. The nursing shortage has an extensive impact in the quality of care as there is lack of balance in patient nurse contact, less experienced staff, and weak teamwork. (Janakiraman et al. 2011, 36.)

Weak communication among staffs, the poor nurse-patient relationship, negligence toward patient safety and nurses’ wellbeing are few other factors that increase the possibility for medical errors in hospitals (Blake, Leach, Robbins, Pike, & Needleman 2014, 356; Janakiraman et al. 2011, 36; Aiken, Bruyneel, Sermeus, Heede, Matawie & Leasaaffre 2012, 281; Nantsupawat et al. 2017, 93; Liu et al. 2012, 1476; Mchugh & Ma 2014, 72). Similarly, a high turnover can lead to low morale and unstable organization, further resulting to unsupportive environment and negative atmosphere (ANA, 2014). Thus, a healthy work environment is necessary for nurse job satisfaction, retention, and to decrease burnout (Zeigen 2016, 3; Aiken et al. 2012, 281). Healthy nurse work environment brings favourable results like job satisfaction which is highly correlated with staff commitment and performance (Munyewende et al. 2014, 2).

Precisely, negative nurse outcomes such as clinical errors, burnout, job dissatisfaction, intent to leave, and high turnover are results of poor work environment. These mentioned outcomes are the results of increased workload, limited resources, lack of collegial and managerial support, poorly designed work and work spaces in hospital work environment (Aiken et al. 2012, 252; IOM 2003; Janakiraman et al. 2011, 36; Liu et al. 2012, 1476; Mchugh & Ma 2014, 72; Nantsupawat et al. 2017, 91). Considering the facts,
improving nurses’ retention and performance is necessary for improving healthcare efficiency and productivity (Janakiraman et al. 2011, 36).

Nurses’ capabilities to meet the requirements of a workplace are reliant on work environment (Zeigen 2016, 1). When workload increases, nurses may fail to perform to their best (Tucker et al. 2010). The work environment characteristics or organizational climate have their independent influence on employee’s behavior (Janakiraman et al. 2011, 37). The context of work environment where nurses operate, certainly determines the quality of their performance, the wellbeing and safety of a patient (Kramer, Halfner, Maguire & Schmalenberg 2012, 148-149; Zeigen 2016, 1).

The implementation of healthy work environment can be proposed as a solution approach for enhancing nurses’ performance, to decrease clinical errors and to ensure patient safety. Substantially, understanding the consequences of the lack of implementation of healthy work environment, health care organizations are prioritizing this subject. Moreover, studies on understanding and improving nurse work environment, its impact on nurses, patients and healthcare organization has come to much forefront now than ever before. Improving nurse work environment is a multidimensional approach and demands rigorous plans and actions from each department.

The above-mentioned challenges are witnessed by one of the authors while working as a clinical nurse for seven years in multiple health organizations. Likewise, it is the first-hand experience of the author that work environment characteristics and processes have a profound impact on the quality of patient care and nurse’s job satisfaction. Even the smaller things such as ward manager’s support or collegial support and their attitudes have significant effect on nurses’ performance. Therefore, it has a huge influence on the nurse job satisfaction and quality of care. Guided by the personal experiences, the authors were seeking approaches for a healthy work environment that fosters nurses’ and patients’ outcomes. Furthermore, authors wanted to explore solutions on reducing nurse and patient adversity associated to poor work environment. Thus, these aforementioned factors have been the source of motivation for this Integrative literature review (ILR). While searching for a healthy work environment approach, it was found that Magnet model includes a comprehensive model with its vigorous research on its effectiveness pioneering on nurse work environment.

The authors believe that nurses today have faced the most challenges than ever before in comparison to any other healthcare professionals. At present, technology in the healthcare industry is running above our pace, and there are continuous changes in patient’s information system, patient’s act and hospital strategy and services.
Although, these are aimed to secure and enhance patients’ services, these changes are often faced by nurses as challenging, time-consuming and stressful to some extent. The authors intend to provide this thesis as a strategic guideline for a healthy work environment and aim at assisting nurses on coping and overcoming with the challenges in the best interest of nurses and patients.

The Magnet model is an international standard designation developed by American Association of Nurses (AAN) which is recognized for productive patient care and nurse job satisfaction that puts nurses’ perspectives at its core (AACN 2005). The Magnet hospital structures can be explained as an organizational framework that fosters professional nursing practice environment and lead to better patient and nurse outcomes compared with other hospitals (Boyle 2004, 112). Magnet hospitals are supposed to have nurses with a high level of job satisfaction, a low turnover rate and appropriate grievance resolution (Summers & Summers 2015). The main four principles of Magnet hospital are nurses’ attraction, retention, job satisfaction and productivity of care (Kramer & Schmalenberg 2008, 56).

Undertaking the significance of Magnet hospital work environment in the complex hospital work settings, the purpose of this ILR is to explore the characteristics of Magnet hospital work environment and its impact on nurses’ and patients’ outcomes. With this ILR, the authors aim to provide evidence-based theoretical knowledge on the role of work environment attributes on nurses and patients outcomes and support the need to improve nurse work environment. In addition, it aims to provide knowledge on how Magnet hospital attributes can be implemented in any other healthcare settings. The ILR was made as a cooperation work between Laurea UAS and Helsinki University Hospital (HUS). It provides the evidence-based theoretical background on the Magnet hospital work environment for the nurses of HUS and assists in the Magnet application process and in flourishing the Magnet culture in their work environment. HUS is the first hospital organization in Finland that is applying for Magnet designation.

2 Healthy work environment

A work environment is a changeable medium where the structures and processes of practice can be changed thereby patient outcomes. Healthy work environment (HWE) allows and fosters essential nursing processes and results in improvement in patient outcomes. (Kramer et al. 2012, 148-149.) An HWE is a productive place where professionals enjoy going, they are resourced and supported by both co-workers and
organization, and have open communication and collaboration (Kirkham 2016, 289; Zeigen 2016, 8). A study conducted by Aiken and Patrician (2000) theorize that nursing organizations can achieve better patient and nursing outcomes if it connects the working environment of workplace to the organizational attributes. The successful implementation of such practices can result on greater patient satisfaction, lower patient mortality, and even lower blunders (Blake et al. 2013, 357). A higher hospital organizational climate is associated with strong intent to stay (ITS) at the current hospital. ITS and retention of nurses are crucial issues that affect quality and cost of healthcare. (Munyewende et al. 2014, 2-14; Nantsupawat et al. 2017, 91-98.)

In order to achieve the highest level of safety and quality, hospitals should devote in creating a supportive work environment for nurses including adequate staffing, managerial support, and good relationships among nurses and physicians (Olds et al. 2017, 155-161). A safe environment can be made by understanding the causes for errors and then after applying the knowledge on developing ways and system to minimize the errors. Consequently, a HWE allows nurses to perform in least pressure and to increase nurse’s capabilities on delivering safe and quality patient care. A HWE should foster particular factors that uplift nurses’ quality of care and the health care outcomes. These factors include evidence-based practice, collaboration and teamwork, safety, and patient-centered care. (Zeigen 2016, 8-11; Janakiraman et al. 2011, 37.)

3 Magnet hospital background

The term ‘Magnet’ in the Magnet designation program was primarily used to recognize hospitals that were able to attract and retain nurses (Aiken, Buchan, Ball & Rafferty 2008, 3331; Gresko 2007, 3; Upeneiks 2003, 85; Desmedtb, Geesta, Schubertc, Schwendimanna & Ausserhofera 2012, 1). During a huge nursing shortage in 1981, a task force established by the American Academy of Nursing carried out a vast research in hospitals across the USA to identify hospitals those were able to recruit and retain nurses. It also worked on recognizing the common characters in those hospitals that contributed on developing a favorable environment for nurses to work. (Aiken et al. 2008, 3331; ANCC 2008; Gresko 2007, 3; Kelly, McHugh & Aiken 2011, 428; McClure, Poulin, Sovie, & Wandelt, 1983; Upenieks 2003, 83.) A series of interview were held with chief nursing officers and staff nurses in this process. The study identified forty-one hospitals which revealed remarkable organizational characteristics that fostered professional nursing practice. The identified organizational characteristics were common among the selected hospitals that differentiated them from the majority of hospitals in
the United States. These selected hospitals were referred to “Magnet hospital”. (Aiken et al. 2008, 3331; ANCC 2008; Gresko 2007, 3; Kelly et al. 2011, 428; Upenieks 2003, 84-85.) Those hospitals had high nurse retention, low nurse turnover, and high nurse job satisfaction (ANCC 2008; Gresko 2007, 3; McClure et al. 1983; Goode, Krugman & Edmonds 2005, 203).

Organizational characteristics of those Magnet hospitals made the foundation for today’s Magnet designation. The characteristics were recognized as an essential measure correlated to organizational structures that influenced to attract and retain nurses. (Gresko 2007, 3; Kramer & Schalmenberg 2004, 365-378.) In the 1980s the turnover rate in Magnet hospitals was 9%, while the other acute care hospitals had 18%. Moreover, 20 years of studies in Magnet hospital have provided empirical evidence that Magnet hospitals have favorable professional practice work environment and positive job satisfaction outcomes among nurses (Upenieks 2003, 86; Armstrong, Laschinger & Wong 2009, 18). Numerous studies have shown that Magnet hospital organizational traits offer the best medium for clinical nurses to employ their proficiency and knowledge while providing superior patient care thereby, increasing job satisfaction and retention (Armstrong et al. 2009, 18; Upenieks 2003, 85; Kramer & Schalmenberg 2008, 56-63).

Furthermore, these identified common characteristics were classified as the “forces of Magnetism” and termed as fourteen forces of Magnetism (Gresko 2007, 3 & ANCC 2008). Primarily, these were the credential elements for Magnet designation therefore formed the fundamental guidelines for evaluation (McClure & Hinshaw 2002, 25-59; ANCC 2011; ANCC 2008). To obtain greater clarity, in 2007, ANCC has consolidated 14 forces into five model components and referred as the standardization of Magnet designation (ANCC 2011; ANCC 2008). The five model components and fourteen forces of Magnetism are displayed in Table 1. The five model components are presented in Figure 1 and explained in the following chapter. These components include structures and processes that facilitate on creating a work environment that sustains nursing excellence (ANCC 2008 & Desmedtb et al. 2012, 2). Additionally, it also assists nurses to solve issues that healthcare industry confronts today (ANCC 2008).
Five model components | Fourteen forces of Magnetism
---|---
Transformational leadership | Quality of nursing leadership  
Management style that is participative
Structural empowerment | Organizational structure with flat, decentralized decision making  
Personnel policies and procedures supportive of nursing  
Community and the hospital  
Image of nursing  
Professional development
Exemplary professional practice | Professional models of care  
Adequate consultation and resources  
Autonomy  
Nurses as teachers  
Interdisciplinary relationship
New knowledge, innovations and improvements | Quality improvement
Empirical quality outcomes | Quality of care

Table 1: The five model components and fourteen forces of Magnetism (ANCC 2008; ANCC 2011 & Goode et al. 2005, 203)

3.1 The concept of Magnet hospital

The Magnet Recognition Program recognizes healthcare organizations for quality patient care, nursing excellence and innovations in professional nursing practice (ANCC 2008). Since, Magnet hospitals are supposed to have nurses with a high level of job satisfaction and a low turnover rate, it is considered as the leading model for successful nursing practices and strategies worldwide (Kramer & Schmalenberg 2004a, 50-54). The purpose of Magnet recognition program is to identify healthcare institutions committing to quality improvement particularly in regard to nursing care delivery. The program puts nurses at the core and recognizes nursing excellence, thereby, hospitals achieve the status for
quality patient care and an exemplary nursing practice. (ANCC 2008; Gresko 2007, 3.)

The program nominates healthcare organizations where nursing leaders implement their strategies to improve patient outcomes. For nurses, Magnet recognition refers to continuous education and career development giving them more autonomy in the bedside of patients. For patients, it is getting the best possible care from nurses who are supported to the best possible level. Hence, the Magnet model is a special designation granted to the hospitals based on the quality indicators and standards of professional nursing practices. The standards include different criteria such as nursing excellence, successful professional nursing practices and strategies to develop a platform and promulgate successful nursing work environment. (ANCC 2008.)

The model begun with a ground-breaking study conducted in 1983 (Kramer & Schmalenberg 2004, 356-378; Aiken, Buchan, Ball & Rafferty 2008, 3331; Boyle 2004, 112). Over the last 30 years several studies on Magnet hospital have resulted that the Magnet work environment leads to positive patients’ and nurses’ outcomes making it an evidence-based model. Studies have shown that Magnet hospital have higher nurse job satisfaction, lower burn out and lower RN turnover. (ANCC 2008.) Numerous researches have demonstrated a link between nursing work environment in Magnet hospitals and patient outcomes. It has been shown that Magnet hospital organizational characteristics empower nurses for using their expertise fully in order to deliver quality patient care. (Armstrong & Laschinger 2006, 128-130; Armstrong et al. 2009, 59; Upenieks 2003, 96; McClure 2002, 25-59; Aiken et al. 2009, 5.) Similarly, the usage of Magnet intervention over different time periods have proved to be beneficial in improving the work environment in hospitals (Aiken et al. 2008, 3330-3331; Boyle 2004, 112-113; Kramer & Schmalneberg 2008, 56). Based on these findings, the model has been verified in improving nurse work environment and increasing their job satisfaction (Mccaughey, Mcghan, Rathert, Williams & Hearld 2018, 2).

Kramer, Brewer, Halfner, Hnatiuk, Macphee, & Schmalenberg (2014) as developers of the Magnet model stated that healthcare organizations should specifically try to understand the complexity of work environment and create strategies for supporting safe and high-quality patient care. According to them, creating a culture that values the essentials of Magnetism increases satisfaction among nurses (Kramer, Schmalenberg, & Maguire 2004b, 44-48). Magnet recognition lasts for four years. The goals of the program are to: recognize excellence in nursing services delivery, foster the quality of care in a work environment that facilitates nursing practices, provide a platform to promulgate best practices in nursing, enhance the positive outcome for patients (Gresko 2007, 3). The five model components of Magnet hospital are described below.
Figure 1: The five model components of Magnet hospital (ANCC 2011)

3.1.1 Transformational leadership

Today’s leader should be able to transform the beliefs, behaviours and values of the organization as healthcare is undergoing huge transformations. There should be proper strategic planning, visibility, accessibility and proper communication with various participants. Likewise, they should have the capability to support and advocate values, behaviours and beliefs that create a healthy work environment in such way that, they are able to transform health sector and nursing staff as well. (ANCC 2008.) The leadership usually gets easier if the leader knows where the people following him/her want to go. Therefore, transformation leader should know the whereabouts of the people so that the need for the future can be met. This kind of transformational leadership requires broad knowledge, clinical experiences, visions, expertise etc. (ANCC 2011.)

3.1.2 Structural empowerment

The processes and structures that are developed by expert leader create innovative environment in the workplace. Such workplace provides opportunity for everyone to become innovative. Empowerment of staffs helps the organization to flourish and to
achieve the desired outcome. Any organization can establish a strong relationship with the community by focusing on strategic plans, policies, structure, programs and systems, thus empowering the core structure of the organization. The strong relationship with the community is always necessary in the clinical practice world in order to obtain better patient outcomes. It can also extend and establish the relationship with extended community organizations that support on structural empowerment. (ANCC 2011.)

3.1.3 Exemplary professional practice

Professional practices such as, proper staffing, budget scheduling and process and interdisciplinary care assist on managing the proper healthcare delivery system. Likewise, accountability and competency of staffs along with autonomy assists on achieving exemplary professional practice. Exemplary professional workforce encourages the diverse workforce and prioritizes safety and quality maintenance. (ANCC 2011.) It also entails effective and efficient care provided by the nurses who are conducted in partnership with various stakeholders including patient and families (ANCC 2008). To establish an exemplary professional practice, it is necessary for an organization to understand the role of nursing staffs with patients, families, communities and interdisciplinary team comprehensively. These kinds of professional practices should be able to understand use of new knowledge and evidence in nursing. Upon following an exemplary professional practice, organization can turn the work environment into healthy, which ultimately lead them to turn into Magnet organization. (ANCC 2008; 2011.)

3.1.4 New knowledge, innovation and improvements

Magnet organizations also consists of ethical and professional responsibility to contribute to patient care, organizations and the profession in terms of new knowledge, innovations, and improvements. Magnet hospitals need redesigned and redefined practices and systems so that the targeted goals are met by maintaining all standards. This can be done by continuous and rigorous scientific researches as they include application of evidence-based practice. Investment in new research is vital in the field of nursing and it promises prominent contribution to nursing science. Moreover, all mentioned components of Magnet organizations per se, transformational leadership, structural empowerment and exemplary professional practices are supported and kept alive by the continuous researches. (ANCC 2008; 2011.)
3.1.5 Empirical outcomes

The Magnet model has its focus on empirical outcomes like “what differences does it make” rather than “what does it do and how it is done?”. While doing so they follow detailed processes at the foundation and ensure strong structures. Thus, the empirical outcomes need to be categorized in terms of clinical outcomes related to nursing. The outcomes are related to the workforce, patient, consumer and organization as well as various approaches for practical solutions. In this process, the previously collected data can be utilized by establishing quantitative benchmarks. These outcomes demonstrate the excellence by providing solutions to numerous problems prevailing in our today’s healthcare system. Moreover, it also represents the “report card” of a Magnet-recognized organization entailing the elements of a healthy work environment. (ANCC 2011.)

3.2 Features of Magnet hospital

The original and follow-up Magnet hospital studies discovered that there were common essential characteristics present in those hospitals which is defined briefly in points. 1) The nurse executive was a member of the executive board i.e., the highest decision-making body in the hospital. It would indicate that hospital administration puts priority on nursing. 2) The nursing service hierarchy was constructed in a flat organizational framework which made a minimal gap between the clinical nurses and nurse executives. This structure would enable a two-way communication between nurses and management and promote organizational constructions to accentuate open and participatory management. 3) Decision making was centralized at the unit level applying a shared governance pattern that provided nurses on each unit maximum discernment organizing patient care. For instance, all staffing and scheduling were carried out at the unit that allowed nurses on each shift to be authorized and responsible for making staffing decisions. 4) The administrative body supported nurses’ decisions on patient care. Nurses managed hospital-wide governance issues in an organized and participatory approach, such as deciding inter-unit patient flow and equipment consumptions. 5) Nurses were supplied with necessary equipment and resources; good staffing, and assistive help. (Upenieks 2003, 85-86; Laschinger, Shamian & Thomson 2001, 209-212; Mccaughey et al. 2018, 2; ANCC 2008; Aikens, Havens, & Sloane 2009, 5-14.)
Magnet hospital has continuously showed the evidence of a higher nurse to a patient ratio and been known for appropriate nurse staffing (Aiken et al. 2009, 5-14). In addition to this, the American Association of Nurses (AAN) task force also recognized flexible staffing, adequate nurse staffing, autonomous work environment, and a priority on providing career opportunities as the substantial attributes of Magnet hospitals (ANCC 2008). Furthermore, Magnet hospital persistently demonstrated three essential characteristics: nurses were given the power to use the resources and influence people and conditions to provide quality patient care, there was pleasant collaboration between nurses and physicians and administrators were assessable, hospitals had well established the structural framework to assure nurse participation in policy making, and fostering nurses’ autonomy and decision making within the clinical paradigm. (The Truth About Nursing 2015; Scott, Sochalski & Aiken 1999, 9-19; Havens & Aiken 1999, 14-20.)

3.3 The essentials of Magnetism

The initial research in Magnet hospitals developed various tools in measuring nurse practice environment and revised them for further improvements. The Nurse Work Index (NWI) was the first one which was developed in 1984. Later, numerous tools were developed through NWI such as the Practice Environment Scale of NWI (PES-NWI) and Nursing Work Index- Revised (NWI-R). (Lake 2002, 176-188.) The PES-NWI is a reliable and validated tool for measuring the five forces of Magnetism with its subscales; the collegial nurse-physician relations, nurse manager ability, leadership, and support of nurses, nursing foundations for the quality of care, nurse participation in hospital affairs, and staffing and resource adequacy. The NWI assess the empirical measurements of Magnet hospital characteristics and have been used extensively in comparing Magnet and non-Magnet hospital. (Kramer & Halfner 1989, 172-177.) In order to link ANCC “Forces of Magnetism” to the feasibility of providing high quality care, Kramer and Schmalenberg (2004) conducted extensive research on staff nurses from 14 Magnet hospitals asking them to choose the most necessary attributes from the 37 items of NWI that are essential for providing high quality care.

The first phase in generating the tool was to discover how staff nurses working in Magnet hospitals defined these “essentials”. What do they mean by control over nursing practice? What constitutes a “good” RN-MD (registered nurse-medical doctors) relationship? What are the dimensions of nurse manager support? (Kramer & Schmalenberg 2004, 366.) Consecutively, eight attributes were identified by Magnet hospital nurses as being essential for providing quality patient care and were labeled as
the “Essentials of Magnetism” (EOM). Thus, the presence of these attributes demonstrates a Magnetic work environment. (Kramer & Schmalenberg 2004a, 50-54; Kramer & Schmalenberg 2008, 56-63.) The eight processes are increasingly interrelated and interdependent which underlines that it is not just one single process but the assembly of all that constructs a productive and healthy work environment (Schamelenberg & Kramer 2007, 459). Eight essentials of Magnetism are; 1) competent nurses; 2) good nurse-physician relationship; 3) support for education; 4) adequate nursing staffing, 5) paramount concerns for the patient; 6) nurses’ autonomy; 7) supportive nurse manager; and 8) control over nursing practice (Kramer & Schmalenberg 2004a, 50-54; 2005, 188-198; 2008, 56-63; Schamalenberg & Kramer 2008, 2-3; Mcclure & Hinshaw 2002, 25-59).

The EOM is based on Magnet hospital nurses’ perspective on the relationship between the work environment processes and productivity of care. It was developed through the grounded theory approach, a psychometrically sound instrument and was taken as a valid and reliable mean to examine the eight functional processes that staff nurses recognize as significant to a productive and satisfying work environment. (Schmalenberg & Kramer 2007, 458-467; Kramer & Schmalenberg 2004, 366-370.) Over 80% of these attributes were found to be directly related to nurse job satisfaction which highlights the fact that nurse job satisfaction was due to the environmental factors that fostered to achieve productive quality patient care (Kramer & Halfner 1989, 172-177).

Further, the EOM supports on forming the ground for administrators to recognize whether a hospital is qualified to apply for the Magnet recognition program or not (Gu & Zhang 2014, 437-440). More precisely, the EOM tool highlights the traits of a Magnet hospital work environment and assists in evaluation for the presence of those features (Mcclure & Hinshaw 2002, 25-59). Likewise, the assessment of work environment through EOM identifies the implications for improvement from nurses’ perspectives in order to achieve productive quality care (Gu & Zhang 2014, 437-440; Kramer & Schmalenberg 2004, 370).

The EOM is different than other instruments because it assesses the features of a work environment based on the process feature of Donabedian model (Schmalenberg & Kramer 2008, 2). Donabedian is a dominant model which works as a conceptual framework to evaluate and examine healthcare system and its quality. The model proposes the quality of healthcare to be based upon three factors; the structure, the process, and outcomes. Structure represents the context where care is delivered; the process indicates the process between the patient and providers; and outcome denotes the influence of
healthcare on patients. The EOM respondents were appealed to agree or disagree while recognizing the components or processes rather than the level at which they were present. Representing the Magnet hospital model as the structure, the EOM assess the essential processes, thus makes it possible to ascertain whether the Magnet model criteria capacitate the processes characterized by the staff nurse, that direct to desired outcomes. (Schmalenberg & Kramer 2008, 3; Kramer & Schmalenberg 2005, 191; Kramer et al. 2014, 571.)

3.4 Research on Magnet hospital: patient and nurse outcomes

Several researches have proven the benefits of Magnet status and continuing the Magnet model in a hospital organization regarding patients, nurses and institutional outcomes (Upenieks 2003, 89-96; Aiken et al. 2008, 3330-3337). As defined by ANCC (2008) Magnet status helps the organization on attracting and retaining top professional nursing talents and provides job satisfaction leading to improvement in patient care, safety and satisfaction of patients. Likewise, it helps the organization on fostering a collaborative culture. (Scott et al. 1999, 9-19; Cimiotti, Quinlan, Larson, Pastor, Lin & Stone 2005, 384-390; Upenieks 2005, 7-13; Lacey, Cox, Lorfing, Teasley, Carroll & Sexton 2007, 199-205.) Magnet hospital leaders seek to achieve the desired outcome by fostering favorable nursing climate with certain work processes specifically; autonomy, control over practice, supportive leaders, nursing participation in hospital affairs, nursing foundation for the quality of care, good nurse physician relationship, adequate staffing and resource adequacy (Kramer et al. 2004b, 44-48; Upenieks 2003, 92-96). The financial success is another major factor to look upon that is supported by the Magnet recognition (Stone & Gershon 2006, 242-247).

provided empirical evidence consistently with previous studies that Magnet hospital nurses have higher job satisfaction than in non-Magnet settings (Upenieks 2003, 83-98).

In the Magnet hospital research study, it was found that over 80% of nurse job satisfaction was due to the delivery of high-quality patient care (Aiken et al. 2008, 3330-3337). Overall, the organizational attributes of Magnet hospital have been found to empower nurses to deploy their knowledge, skill and judgement in implementing measures to rescue patients from harmful incidents. This empowerment resulted on encountering lesser complications and thus leading to reduction in patient mortality. These results bring forward the fact that the favorable work environment for nurse retention and job satisfaction also favors high quality patient care as well. (Laschinger et al. 2001, 209-218; Upenieks 2003, 83-98; Armstrong et al. 2009, 59-61.)

The influence of Magnet hospital attributes on patient outcomes have been examined throughout the last decade by Aiken and her colleagues (Boyle 2004, 112; Aiken et al. 2008, 3330-3337; Aiken et al. 2009, 5-14; Aiken et al. 2012, 281-291). Magnet hospital are thought to have structures that promote and increase levels of nurse autonomy, control, and improved relations with physicians. Magnet hospital have shown higher patient satisfaction and lower mortality in comparison to non-Magnet hospitals. (Laschinger et al. 2001, 210.) Aiken with her colleagues examined mortality rates between Magnet and non-Magnet hospital and found that Magnet hospital had 4,6% lower mortality than non-Magnet hospitals. The study showed that Magnet hospitals had larger portion of registered nurses and provided greater levels of autonomy, the control of practice, higher professional relationship between nurses and physician. Moreover, the study confirmed that lower mortality was the result of autonomy and control over practice perceived by nurses in Magnet hospital, instead of the higher number of staffs. The results indicated that certain organizational attributes; autonomy, control over practice and collaboration are present in Magnet hospital and can be procreated in other hospitals. (Boyle 2004, 112-114.)

A number of studies have established the relationship among the organizational attributes, nurse satisfaction, and quality of outcomes (Laschinger et al. 2001; Upenieks 2003, 83-98; Mensik 2007, 230-234; Aiken et al. 2008, 1-8; Kelly et al. 2011, 428-433; Buffington, Zwink, Fink, Devine & Sanders 2012, 273-281; 209-218; Friese et al. 2015, 986-992; McCaughey et al. 2018, 1-10). Mitchell & Shortell (1997) investigated 81 studies to get insight in the relationship between organizational processes, mortality, and harmful events and found that physician-nurse collaboration and nurse surveillance were
two variables continuously correlated to lower mortality. Similarly, the harmful events were highly correlated with organizational characteristics than mortality and represented as sensible markers affecting in quality of care (Mitchell & Shortell 1997, 19-32). Likewise, a systematic review showed that nursing work environment attributes such as good nurse physician relationship, appropriate workloads, standard nursing care, positive managerial features, and chances for professional growth have a vital role in decreasing patient mortality (Kazanjian, Green, Wong & Reid 2005, 111-117). These positive nursing features have been found to be present in Magnet hospital stating that Magnet hospitals have better work environment in comparison to the non-Magnet hospitals (Laschinger et al. 2001, 209-218; Upenieks 2003, 83-98; Aiken et al. 2008, 3330-3337; Kelly et al. 2011, 428-433; Buffington et al. 2012, 273-281; Friese et al. 2015, 986-992; McCaughey et al. 2018, 1-10).

Nurses in Magnet hospitals used Magnet principles to improve the existing quality of work environment (Kelly et al. 2011, 428-433). Moreover, the issues such as work dissatisfaction and burnout were prevalent more in non-Magnet organization in comparison to Magnet (Kelly et al. 2011, 428-433; Aiken et al. 2008, 3330-3337). It was shown that Magnet hospital offer a work environment where nurses are empowered for professional practice and are more likely to experience a culture of patient safety (Laschinger et al. 2001, 209-218; Boyle 2004, 111-113). Similarly, several studies have proven that the Magnet recognition is directly associated with the financial success of the healthcare organizations, which may be one of the primary factors to look upon Magnet designation (Stone & Gershon 2006, 240-247; Upenieks 2003, 83-98).

Aiken, Sochalski, and Lake (1997) developed a framework making links on nurse workplace attributes; autonomy, control over nursing practice, and strong collaborative nurse-physician relationships to organizational trust, burnout, job satisfaction, and nurse assessed patient care quality. The study asserted that nurses’ impacts on the patient outcome with straight clinical action to individual patients and by persuading others in the organization through policies, work culture and measures. They claimed that organizational framework that promotes persistent nurses’ autonomy with their expertise and responsibility will foster patient outcomes. Nurses in the work environment under these frameworks are able to: a) make timely decision by relying upon their expert judgement, b) control resources required for standard quality care, c) have strong collaborative relationship with physicians that maximize patient care decision making. The fulfillment of these conditions leads to improved patient outcomes inevitably. Healthcare organizations can influence on patient outcomes through two level; hospital level and unit level. At the hospital level, organizational structures that prioritize nursing
highly in the areas of patient care have an influence on clinical outcomes. It was stated that nurse’s participation at decision making in the executive management level were fostering such initiation. Despite, the unit level structure in Magnet hospital was like other hospitals, nurses had higher professional autonomy, and control which might explain to their increase patient outcomes. (Aiken et al. 1997, 6-18.)

They also exerted that nurses’ autonomy, control over nursing practice, and relations with physicians can be fostered on a conceptual basis by two-unit level organizational traits; a) expertise in care provided, and b) distinguishing patient or aggregation. In the special departments, nurses and physicians increased in-depth expertise and patient care capabilities fostered higher collaboration. Likewise, when patients were grouped according to the similar medical problems, nurse autonomy, control over nursing practice, and relations with physicians were increased significantly. Similarly, nurses’ actions were determining such as in palliative care units. (Aiken et al. 1997, 6-18.)

3.5 Kanter’s theory of structural empowerment

Several studies in Magnet hospital that linked structural empowerment of nurses to job satisfaction have adopted the theoretical concept of Kanter’s theory of structural empowerment. According to Kanter’s structural theory of organizational behavior, workplace characteristics (organizational characteristics, culture, and hospital settings) have more impact than individual employee’s personality traits comprehending his/her attitudes and productivity on the job. The degree of employees’ job empowerment and satisfaction is highly influenced by the work environment structures experienced by them and thus the structures influence their behavior. Kanter affirms that various work empowerment structures such as, the aspects of power and opportunity have the possibility to explain the differences in individual responses to conditions in the work settings. For instance, a nurse leader who has access to information, support, and resources along with the possibility to learn further and grow, is powered to be impactful in his or her position. Hence, they are enabled to empower staff nurses by sharing the means of power and opportunity. In response, the nurses complete their work more efficiently and are satisfied in their work than those who do not have access to these structures. In Magnet hospitals, empowerment leading to autonomy, and autonomy leading to job satisfaction becomes a process. Eventually, this process results in improved organizational efficiency. (Laschinger et al. 2001, 209-218; Upenieks 2003, 84.)

In another study by Armstrong et al. (2006) leaders’ behavior was revealed to have a
substantial influence on nurse’s perceptions of workplace empowerment that emphasizes on the role played by a nursing leader to create an empowered work environment.

Kanter believes that significant structures at the workplace for empowerment are access to opportunity, resources, information, and support. Access to opportunity indicates a person’s expectations and outlook for growth. Opportunity for growth is influenced by access to challenges, rewards, and professional development, comprising the opportunity to participate in councils and task forces. Access to resources indicates the ability of individual to access time and equipment needed to carry out their work. Access to information is the access to organizational policies, and goals, consisting of the data, technical knowledge, and expertise as necessary to function proficiently in a certain position in the larger setting of the organization. Access to support includes the feedback and guidance from seniors and colleagues, which can also be a caring guidance, evaluation, appreciation, advice, and assistance. (Armstrong & Laschinger 2006, 124-131; Armstrong et al. 2009, 55-62; Ridley, Wilson, Harwood & Laschinger 2009, 28-35.)

Employees who are supported by management to function according to their expertise and judgement are more likely to think that excellent outcomes are accomplishable. Kanter asserts that accessibility to these empowering structures is achieved through systemic formal and informal job characteristics. Formal job characteristics are flexibility, adaptability, and creativity linked to job that permit discretion. Moreover, they need to be visible and at the core to the organizational goal. Likewise, informal job characteristics refers to strong network with peers and superiors and other organizational members. Indeed, it is within these systemic sources, employee have access to empowerment structures thereby increasing their job efficiency and benefitting the organization. (Armstrong & laschinger 2006, 124-131; Armstrong et al. 2009, 55-62; Ridley, Wilson, Harwood & Laschinger 2009, 28-35.)

Numerous research findings have demonstrated support for Kanter’s theory in nursing. Kanter’s notion of empowerment has been found related to significant organizational outcomes such as autonomy, organizational commitment, participation in decision making, control over practice, job satisfaction and lower level of burnout. These characteristics are highly visible in Magnet hospital. These are the structural factors of a nurse work environment in Magnet hospital for establishing professional practice. Thus, there have been plenty of evidences relating empowerment to Magnet hospital characteristics. (ANA 2014; Armstrong & Laschinger 2006, 125; Armstrong et al. 2009, 56; Upenieks 2003, 84.) Several studies linking empowerment to Magnet hospital
characteristics ((Armstrong & Laschinger 2006, 125) identified that, nurses who had access to empowering structures had the high perceptions of Magnet hospital characteristics in work environment. Likewise, Upenieks (2003) reported that nurses who practiced in Magnet hospitals informed higher level of empowerment than nurses in non-Magnet hospitals. Substantially, nurses who think that they have empowered work environment are more satisfied, committed to organization and notify standard quality nursing care in the units (Upenieks 2003, 84).

A growing body of literature supports that empowering work environments foster the professional practice and creation of a positive patient safety climate. Magnet hospital characteristics indicate circumstances that fosters professional nursing practice. For instance, nurses working in a circumstance that support professional practice are more likely to be focused on standard patient care. They are encouraged and supported to speak out and intervene in identification and reporting of errors as well. It was found that nurses working in an environment, that supplies them the power and resources to fulfil their job effectively and supportive of professional nursing practice also perceived patient safety climate in the work settings. As a result, nurses became more capable of supervision and the immediate response to threats that are against patient safety. Similarly, when nurses get the tools necessary to carry out their job, they are the most likely to report that their work environment offer circumstances that foster professional practice. Studies in Magnet hospital have revealed that hospitals that foster unit-based decision making have a strong nursing executive and enhance professional nursing practice, therefore are more potential to provide high quality patient care. (Upenieks 2003, 83-98; (Armstrong & Laschinger 2006, 124-132; Armstrong et al. 2009, 55-62.)

Magnet hospital studies have recognized five essential components of Magnet hospital set up: nursing participation in hospital issues, nursing foundations for care, nursing management ability, support and leadership, adequate staff and resources, and collaborative nurse-physician relationships (Armstrong et al. 2009, 56). Armstrong & Laschinger (2006) recognized that these attributes were crucially associated to staff burn out and patient safety outcomes making it understandable that these attributes would be presented in empowered work settings.
3.6 Nursing leadership

Throughout the original and follow-up Magnet hospital study it was found that the most significant organizational characteristic is the quality of nursing leadership. Over the Magnet research period, nurse leaders mentioned several leadership attributes that they believed were vital in accomplishing organizational success and enhancing job satisfaction among nurses. Most of these attributes were featured by nurse leaders; “being supportive and knowledgeable, maintaining high standards and living up to the expectations of staff; remaining highly visible to clinical nurses and responsive to their needs; upholding open lines of communication, valuing education and professional development; preserving a position of power and status within the hospital; and keeping actively involved in the state and national professional organizations”. (Upenieks 2003, 87.)

As a determinant factor for nurse retention and job satisfaction, extroverted leader’s personalities with transactional leadership styles are highly eminent. Therefore, at present nurse leader behavior is at the center as an evidence-based approach to nurse retention considering it is positive association with nurse satisfaction and retention. (Buffington et al. 2012, 273.) Both in the initial and follow-up phases of Magnet studies, Magnet nurse leader reviewed their leadership style as transformational instead of autocratic and conventional. They were recognized by nurses as visionary, inspirational, and loyal. They supported autonomy and critical thinking and valued each clinical nurses’ contribution to the organization. Furthermore, nurse leaders had clearly infused values into nursing that exceeds the technical portion of the clinical job. Staff nurses assume that these leaders could transform an ordinary organization into dynamic, invigorated, and flowing organization. (Upenieks 2003, 83-98.)

Nurses desire to get feedback and support from their leaders and want to be heard and treated equally. Likewise, they want to determine goals together (Buffington et al. 2012, 273). Staff nurses in Magnet hospitals appreciated their nurse administrators for being visible, available for support, listening to their concern, recognizing and appreciating their efforts and being a strong advocate for nurses. Substantially, leader’s behavior has been shown highly impactful on clinical nurses’ perception of workplace empowerment, signifying the role played by nurse leaders in generating an empowered work environment because of which nurses’ leaders have a considerable influence on nurses’ job satisfaction. (Upenieks 2003, 85-86.) Upenieks (2003) reported that the job satisfaction and retention of nurses is highly linked to the nurse leader’s effectiveness. It
notified that one major structural element that affected nurse leader effectiveness was a supportive organizational culture provided by the administrators and managers in Magnet hospital. The nurse leader was taken as a valued member in the administrative team and was granted the power and opportunity to execute essential organizational processes that improve nursing satisfaction. When nurses are satisfied, it promotes nurse retention and decrease turnover thereby increasing potentiality for delivering high quality patient care. (Baumann, O’ Brien, Armstrong, Blythe, Bourbonnais & Cameron 2001; Upenieks 2003, 91; Armstrong et al. 2009, 55-62.)

3.7 Magnet designation process

The Magnet recognition program is the most reputable recognition that any healthcare organization receives particularly in the nursing excellence (Lundmark & Hickey 2006, 290). The Magnet is known as a leading source for the successful nursing practices and strategies worldwide. Since Magnet credentials are associated with high quality nursing services, consumers depend on the designation obtained as Magnet. Health service institutions such as rehabilitation centers, hospice providers, nursing homes, healthcare agencies, outpatient facilities and acute hospitals etc., can apply for Magnet recognition. (Munroe & Lash 2005, 15.) To obtain the designation, organizations are obliged to fulfil particular criteria. Moreover, obtaining Magnet status should be a strategical goal from the executive level and should be elaborated in the action plans. Similarly, the required resources should be adequately supplied. In the Magnet designation process, a nurse coordinator is selected who is responsible for gathering all materials and assuring all processes for fulfilling all necessary requirements. (Goode et al. 2002, 203-205.) Hospitals become eligible for Magnet designation, if they have single nurse administrator and are being governed by a single governing authority in the department of nursing, however the nursing service can be with one or more settings. In this setting however, a baccalaureate prepared registered nurse as a designated leader becomes responsible for the entire nursing activities. (Munroe & Lash 2005, 15.)

A particular team should be made for the application process. The leading committee includes staff nurses, advance practice nurses from various clinical services, and members from board committee including educating leaders. This committee assess standards, collect evidences and prepare the hospital portfolio. (Goode et al. 2002, 203-205.) Since, Magnet designation favors the fair labor practice, any records of unfair labor practices committed by the organization for five years preceding the application are ineligible for this recognition (Munroe & Lash 2005, 15). The Magnet process usually takes
about two years of time period consisting various important rigorous steps for carefully ensuring the successful completion of the preceding steps: (a) application process, (b) written documentation and evaluation (c) site visit (d) decision, and (e) award. Once awarded, the Magnet designation was valid for four years and the hospitals must reapply for the continuation of the Magnet designation. (ANCC 2008; Munroe & Lash 2005,15.)

a) Application

The application process of the Magnet recognition demands important information such as the project directors’ details. As mentioned earlier, the project director should have baccalaureate degree and should also be a registered nurse. In addition, the director must be aware and informed about the comprehensive demographic information of the organization. The initial application should contain overall information especially on projected deadline documents, by meeting all other requirements. (Munroe & Lash 2005, 17.)

b) Written documentation and evaluation

According to the standard application procedures, written documentation for the designation must be submitted within two years of initial application to the American Nurses Credentialing Centre and other assigned appraisers. Since, the written documents must demonstrate the compliance with all 14 standards of Magnet recognition program, this process is one of the most challenging and time consuming. Additionally, the documentations include a narrative statement and collects evidences on compliance. Once the appraisers receive the application, they prepare a report based on their review and ask for any other additional evidence if required. If other evidences are demanded, applicants are granted 60 days to respond. There is also an appraisal fee basically based on the numbers of beds in the applicant’s facility that the applicants are invoiced to pay. (Munroe & Lash 2005, 17.)

c) Site visit

Once the application is received by the appraisers, they evaluate the facility and the service site to verify the contents mentioned in the submitted documents (Lundmark & Hickey 2006, 293; Munroe & Lash 2005, 19). In this process any clarification and
amplification illustrated in the documents are evaluated properly, which generally takes two full days. There are usually two evaluators involved in this verification process and they meet clinical nursing staffs, nursing leaders and any other important personnel of the organization. The applicant’s official representative receives a verbal brief report by the end of the site visit to be followed by other procedures. (Munroe & Lash 2005, 19.)

d) Decision

Another major process is the decision where the appraisers prepare a summary of the written documents and submits a confidential report to the ANCC Commission on Magnet Recognition (COMR). Based on the report provided by the appraisers COMR determines if the applicant is eligible to receive the Magnet designation. The applicant is also evaluated if they are dynamic, innovative and excellence-focused organization. COMR makes decision based on voting and based on the analysis of the report. (Munroe & Lash 2005, 19.)

e) Award

Upon meeting all the criteria and being approved by the COMR the applicant is awarded a Magnet designation for first four years, after which they need to reapply. The applicant needs to take part in annual surveys so that their continued compliance with the Magnet recognition program can be ensured. If the monitoring agency finds that the facilities or organizations are not following the standards or any other evidences of noncompliance, they can revoke the Magnet designation. (Munroe & Lash 2005, 19.)

4 Purpose, aims and research problems

The purpose of this ILR was to explore the characteristics of a Magnet hospital work environment and its impact on patients’ and nurses’ outcome. The aim of this thesis is to provide evidence on the role of nurse work environment on nurse and patient outcomes, thus supporting the need to improve nurse work environment. Also, it aims to provide knowledge and guidelines on how Magnet hospital characteristics can be implemented in any other healthcare settings.
Research questions:

1. What are the attributes of a Magnet hospital work environment?

2. What are the impacts of a Magnet hospital work environment on nurses’ and patients’ outcome?

The research problem is defined through PICO theory (Miller 2001), which distinguishes the population/problem of interest, the intervention/phenomenon of interest, and the context/comparison in which the ideas are evident. The literature search process for the thesis is guided by the PICO model. The targeted population (P) of the thesis aims to benefit are nurses and patients. The supposed intervention (I) is to inform healthcare leaders the attributes of a Magnet hospital work environment and its significant link to productive quality care, nurses’ job satisfaction and retention. The context (C) is hospital work environment. The target outcome is to add knowledge on improving nurse work environment resulting in better patient and the nurse outcome. PICO theory enables the formation of a clinical question that is searchable and answerable, which effects on the quality of the literature search, and is the initial part of evidence synthesis (Fineout-Overholt 2005, 335-344; Da Costa Santos 2007, 508-511).

5. Integrative literature review as a research method

Literature review is a research method that uses primary research to distinguish, measure, and understand available research for a defined clinical question (Holly et al. 2012, XV). A high-quality review demands a detail search to discover important issues. The search technique should be transparent and should record all the steps precisely thus, it is possible to evaluate and reproduce (CRD 2009). The quality of primary studies needs to be assessed sensibly and integrated in the analysis and interpretations of results (Whittemore 2005, 61).

A good literature review can be a significant medium to promote clinical practice in achieving evidence-based care (Holly et al. 2012, XVI; Hopia, Latvala & Liimatainen 2016, 662). To ensure an unbiased and complete synthesis of the evidence, a prompt bias control and systematic method in reviewing the evidence has to be undertaken. For a systematic approach rigor should be strengthened by narrowing the clinical topic with a focused question. Search criteria should be clear and precise. The inclusion and exclusion criteria should be explicit so that the review is reproducible. Selected articles should be critically appraised for quality assessment. (Whittemore 2005, 61 & Crawford &
Rondinelli 2013.) Furthermore, Whittemore and Knafl (2005) emphasized for a clear purpose because of a number of variables in integrative review, also Polit and Beck underlines for a well-defined purpose and research question. Analyzing and synthesizing varied primary sources is a major challenge in undertaking an integrative review (Crawford & Rondinelli 2013). Combining varied sources is a profound process and can lead to lack of rigor, inaccuracies and bias (Hopia et al. 2016, 662-667). There is a high possibility for sparsely formulating analysis, synthesis and conclusion drawing as well as possibility of an incomplete synthesis. Also, there are difficulties in merging empirical and theoretical reports. Thus, the data analysis strategy is an important priority in updating the methodology of the integrative review. (Crawford & Rondinelli 2013.)

In the past, majority of the review approaches had been centered on methodologies particularly, systemic and meta-analysis review. These studies had not been able to go into the depth of nursing research as they highlighted more into randomized clinical trial & hierarchies of evidence, hence, there was a limitation in the sources of information and evidence. (Whitemore & Knafl 2005, 546-553; Coughlan & Cronin 2017, 17.) As such, integrative reviews are the broadest type of review methods allowing for the inclusion of diverse methodological studies for developing a holistic understanding of the topic of interest through empirical research and theory. In addition, it embodies a wide range of purposes: to define concepts, to review theories and evidence, and to analyze methodological issues of a particular topic. (Crawford & Rondinelli 2013; Whitemore et al. 2005, 546-553; Whittemore 2005, 57-61; Hopia et al. 2016, 662-669.)

According to Whittemore & Knafl (2005) & Whittemore (2005) despite combining data from varied research designs can be challenging, it has a potentiality to enhance magnitude of conclusions. In fact, the diverse methodological combination of data is taken as a distinctive feature in integrative review (Hopia et al. 2016, 662). The varied sampling design of integrative reviews in correlation with the diversity of purposes has the potential to result in an inclusive illustration of complex concepts, development of theories and practice important to nursing practice (Whitemore & Knafl 2005, 546-553; Whitemore 2005, 57; Coughlan & Cronin 2017, 17; Hopia et al. 2016, 663).

Integrated literature review method is adopted for this thesis in order to explore the characteristics of Magnet hospital research and its impact on nurses and patients through a comprehensive approach with the aim to produce evidence-based solution for some defined problems in nursing work environment. Integrative review was suitable for our thesis considering the comprehensiveness of our topic of interest and the number of
varied researches available related to the topic. This integrative review was conducted using the processes based on the model of Whittemore and Knafl (2005). The integrative review falls under qualitative paradigm (Joniak 2003; Polit & Beck 2018; Thorne 2009). Therefore, thematic analysis is adopted for data analysis, which is described in the following chapter.

5.1 Stages of integrative literature review

The implementation of this ILR is completed following the stage introduced by Whittemore (2005). According to Whittemore (2005), there are five stages of ILR that includes problem formulation stage, literature search stage, data evaluation stage, data analysis stage and presentation stage (Whittemore 2005, 58; Whittemore & Knafl 2005, 548).

![Diagram of stages of integrative literature review](image)

Figure 2: Stages of integrative literature review (Whittemore 2005)

The process of integrative review initiates with identifying a concept of interest. A clear identification of the problems and purpose of review is important to provide focus and boundaries for all the sequential review stages. As mentioned above, for a systematic approach rigor should be strengthened by narrowing the clinical topic with a focused
question. In this stage integrative review begins to become rigor. (Whittemore & Knafl 2005, 548; Coughlan, Cronin & Ryan 2013, 95.)

Literature search is the most important step in ILR. All the search steps should be well documented and enhanced with rigor. In order to conduct quality literature review and enhance rigorous, properly defined literature search strategies are essential as well as any sampling decision made must be precise and justified. Incomplete search results and biasness leads to the collection of insufficient databases and are prone to wrong results. (Whittemore & Knafl 2005, 548-549.) The authors have recorded all the search processes and tried to make it explicit as much as possible. Additionally, for achieving a defined search strategy producing a saturated hit, an initial search process was tried many times before finalizing the key terms.

The third stage of integrative review is data evaluation. In this stage data are extracted and critically evaluated. This stage is one of the major steps as it determines the quality of evidence of the review. Each selected article is appraised thoroughly for identifying the quality of evidence. Subsequently, assessing the methodology is a central key as well as evaluating for any bias plays a substantial role while assessing a study. (Whittemore & Knafl 2005, 548-549 & Coughlan et al. 2013, 95.) For undertaking a quality assessment of the included references and extraction of the findings, one has to develop or use published formats to document the appraisal and the detail of each reference. It is these individual summaries that will now form the basis of overall summary. If one has used a recognized scoring system for quality appraisal, an individual record for each study has to be created. For the extraction of findings, one should have at least documented the source and full reference, the title of the article, the author, the purpose and methodology used in a research study, the findings and outcomes. (Whittemore & Knafl 2005, 548-549 & Coughlan et al. 2013, 95.) The authors have documented and presented critical appraisals in Appendix 1, Appendix 3, Appendix 4, Appendix 5 and Appendix 5. Similarly, data extraction of each reference is presented in Appendix 1.

The evaluation process is complex due to the variedness in study designs. The quality evaluation of an integrative review varies according to the sampling frame as well. Therefore, there is no gold standards to evaluate quality in research review. However, consideration of the quality of primary sources in a meaningful way can be an ideal standard. (Whittemore & Knafl 2005, 549-550 & Coughlan et al. 2013, 95.)
Data analysis is the fourth stage in integrative review. The theoretical framework for data analysis of this thesis has been drawn from Braun & Clark (2006), Miles & Huberman (1994) & Whittemore & Knafl (2005). We found the combination of these methodologies reach in its content, while using only one of the methods there was possibility of lacking cohesion in our review. In addition, a combination of these analysis methods contributes in condensed theme development with highly saturated data. Methods for data analysis in integrated review are less developed yet are most challenging aspect and do carry possibilities for accompanying errors. (Whittemore & Knafl 2005, 550.) Hence, choosing a systematic data analysis method is essential before undertaking a review.

After the data analysis process is completed, the results of reviews are presented in the form of an analysis, summary or synthesis. The summary presented describes and exhibits findings of primary studies in the form of developed themes. The results deliver narrative information contributing to new understanding of the phenomenon of concern as well as critique on methods, outcomes, and implications in practice. Synthesis are the highest level of abstraction and comprise the formation of a new model or framework for the problem. The results of primary references used in the review need to be reported thoroughly so that it helps the readers to evaluate the foundation for the conclusions. In systematic reviews it is a requirement that a collection of information about each study included in the review is presented. Progressively, this norm is now adopted in narrative and other reviews as well in order to cross criticisms on them being less systematic and explicit than other review methods. Therefore, many reviewers now present a tabular summary that includes the evidence of primary studies consisting the key details. (Whittemore 2005, 56- 61 & Whittemore & Knafl 2005, 552.)

5.2 Data search strategy

Research reviews are the research of research so it should meet the similar precise methodological standards as in the original research in clarity, rigor and replication (Whitemore & Knafl 2005, 546-553; Coughlan et al. 2017, 17). In this thesis, a comprehensive detail search process was carried out by both authors individually, followed by mutual discussion and agreement. Consequently, final selection of the references was done through valid reasoning and mutual consent. The selected references were then critically appraised individually and then compared together, which followed with quality scoring. Any agreement or disagreement between authors were justified with logical reasons. It is of the authors’ opinion that these retrieved
articles answer the research question in the best possible way. The data search process and analysis methodology of this review are described in detail below.

The validity of an integrated review and replication of the results depends on the validity of search criteria. Thus, in order to ensure validity and feasibility of our thesis, we defined a fix key search term for every database and created a set for inclusion and exclusion criteria which is shown on Table 3. As Magnet model is quite a vast model an enormous amount of literature was available. However, to avoid bias on selecting studies and to remain focused on thesis purpose and to assure the integrity of an integrated review, i.e., to do a comprehensive review, the selection criteria were broader and explicit. Basic search was done on five databases so that wide range of data could be assessed. The key words used in four databases was “Work environment” AND "Magnet hospital”. Likewise, the keyword used for one database was “Magnet hospital”. The database search is shown on Table 2.

<table>
<thead>
<tr>
<th>Database</th>
<th>Time limit</th>
<th>Language</th>
<th>Search Terms</th>
<th>No. of Hits</th>
<th>No. of discarded articles (After title and abstract screening)</th>
<th>No. of reviewed articles (Full text)</th>
<th>No. of final selected articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ebsco</td>
<td>2000-2018</td>
<td>English</td>
<td>&quot;Work environment&quot; AND &quot;Magnet hospital&quot;</td>
<td>36</td>
<td>21</td>
<td>15 (Duplicates with other databases so n=0)</td>
<td>0</td>
</tr>
<tr>
<td>Proquest</td>
<td>2000-2018</td>
<td>English</td>
<td>&quot;Work environment&quot; AND &quot;Magnet hospital&quot;</td>
<td>276</td>
<td>244</td>
<td>32</td>
<td>16</td>
</tr>
<tr>
<td>Ovid</td>
<td>2000-2018</td>
<td>English</td>
<td>&quot;Work environment&quot; AND &quot;Magnet hospital&quot;</td>
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<td>82</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>PubMed</td>
<td>2000-2018</td>
<td>English</td>
<td>&quot;Work environment&quot; AND &quot;Magnet hospital&quot;</td>
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<td>10</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>Cochrane</td>
<td>2000-2018</td>
<td>English</td>
<td>&quot;Magnet hospital&quot;</td>
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<td>1</td>
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<td>23</td>
</tr>
</tbody>
</table>

Table 2: Online database search
Initially, search process was carried out individually screening the topics of the references. Then, abstracts of selected articles were read thoroughly by both authors and duplicates were removed. Articles selected by both authors were taken forward. Articles in which authors had different views, were chosen or removed via logical reasoning. Articles that did not become clear from the review of abstract alone were reviewed full text even in the first phase of selection. Thus, articles covering a comprehensive subject related to thesis purpose were selected implementing the inclusion and exclusion criteria.

The selected articles were then read full text by both authors individually, and then after discussions and consensus, appropriate references were selected for our review. It was during this phase that each author made an initial summary table of references also including reasons to include or exclude. The authors agreed to each other considering the statement for inclusion and exclusion. One article missing from the search result turned to be a part of sequential research studies significant to our review, thus was then added separately. Initially, the missing article was found with the same search term with a slight change in search process. It was necessary to include the article to obtain comprehensive data for our research problem. The final articles chosen for full text review was n= 24. Thereby, 23 references retrieved from the search process as shown in Figure 3 below and one reference added as from the mentioned process.

The selected full text articles were reviewed individually. Some articles were still removed through valid reasons and mutual discussion, as the authors found those studies to be unclear related to the study area. Likewise, those that would not meet our purpose were excluded. Consequently, the articles to be reviewed were chosen. The final selected articles were then assessed for quality individually and combinedly. No article was removed based on the quality scoring. Quality scoring of retrieved articles is presented in Appendix 2-5.
5.3 Data reduction process

The data reduction process illustrates the entire screening process of the collected studies from different selected online databases. It also defines the reasons on exclusion of selected studies showing the final number of selected articles.

Figure 3: Data reduction process
5.4 Inclusion criteria

The inclusion and exclusion criteria were determined by mutual understanding of authors. Studies including the following related topics were included; Magnet hospital characteristics, Magnet work environment, Magnet hospital linking between work environment and nurses outcomes, Magnet hospital linking work environment and patient outcomes, research on non-Magnet hospital assessing Magnet hospital characteristics, research on non-Magnet hospitals using Magnet model tools and theories, research done for the development of EOM tool, research comparing Magnet and non-Magnet hospitals. The initial Magnet hospital research began in 1983 and followed by massive ground-breaking researches in 2001, 2003, and 2004. Therefore, the authors have taken articles from 2000-2018 insuring the comprehensiveness of the literature search. Peer reviewed articles which were published in English language were accepted. Only research articles from scholarly journals having all research designs were accepted for accuracy and quality assurance.

5.5 Exclusion criteria

Research articles in non-Magnet hospitals without any Magnet model tools or theories were excluded. Similarly, research not associated to Magnet work environment were excluded from this thesis process. Likewise, unclear research and those only targeted on Magnet Model history and process were excluded.
There are two big challenges for researchers conducting literature review; one is to classify research studies because of the introduction of new research methodologies in the field, and another is the inclusion of diverse types of studies that compels the researchers to apply varied types of assessment tools. In general, quality assessment is conducted to identify evidences and also to manage the volume of evidence in any studies. (Coughlan et al. 2013, 70-80.) The validity of research conclusion depends upon

<table>
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<tr>
<th>Inclusion criteria</th>
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<tr>
<td>Articles published in English language</td>
<td>Articles published in different languages other than English.</td>
</tr>
<tr>
<td>Peer reviewed academic journal articles (qualitative, quantitative, and mixed methods, systematic literature review, ILR).</td>
<td>Studies other than research articles.</td>
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<tr>
<td>Studies that explore Magnet hospital characteristics in both Magnet and non-Magnet hospital</td>
<td>Unclear studies.</td>
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<tr>
<td>Studies done on Magnet hospital linking between work environment and nurses’ outcomes.</td>
<td>Studies not associated to Magnet work environment</td>
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<tr>
<td>Studies linking Magnet hospital work environment and nurse outcomes</td>
<td>Studies targeted to assess Magnet model tools only.</td>
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<tr>
<td>Studies linking Magnet hospital work environment and patient outcomes</td>
<td>Studies targeted to Magnet model history and process.</td>
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<tr>
<td>Studies on non-Magnet hospitals using Magnet model tools and theories.</td>
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<td>Studies done on the development EOM tool.</td>
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<td>Studies that compares between Magnet and non- Magnet hospitals.</td>
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<td>Studies done on Magnet hospital linking work environment and patient outcomes.</td>
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Table 3: Inclusion and exclusion criteria

5.6 Quality assessment
the validity and reliability of the chosen instrument as well. Assessment of methodological quality are referred as Critical appraisal. Recognition of the study type is highly essential to determine the critical appraisal tool for any study. (Whittemore & Knafl 2005, 549.) Considering this fact, the retrieved literatures were read and re-read to be classified into categories. Studies were then classified based on the algorithm presented by National institute for clinical excellence (NICE 2017).

A diverse range of studies were selected in the final inclusion; thus it posed a big challenge to choose any particular critical appraisal tool for quality assessment. It is asserted that for a quality assessment to become transparent; to obtain the methodological quality and to describe the method of conflict resolution, a minimum of two review authors should assess included studies independently and then jointly. In this thesis, both of the authors classified the types of studies and four quality assessment tools were adopted: Critical Appraisal Skills Program (CASP), Strengthening the Reporting of Observational Studies in Epidemiology (STROBE), Preferred Reporting Items of Systematic reviews and Meta-Analyses (PRISMA) and Quality Assessment Tool for Studies with Diverse Design (QATSDD). The tools were slightly modified by adding score and percentages.

CASP checklist was used for qualitative studies, which is presented in Appendix 2. It was developed by public health resource department to enhance change within the National health services (NHS) in the UK for healthcare improvement. The checklist describes three main issues that are significant while appraising a research paper; validity of the study, results, and usefulness of results. (CASP 2018.) For observational studies, STROBE checklist was used that is presented in Appendix 3. The STROBE Statement provides guidance to authors on improving the reporting of observational studies. It also facilitates the researchers on critical appraisal and interpretation of studies by providing the perspective of reviewers, journal editors and readers. (Vandenbroucke et al. 2007, 163-194; STROBE 2019.) PRISMA was used for the quality assessment of systematic reviews (Appendix 4). PRISMA is an evidence-based tool used for critical appraisal in systematic reviews and meta-analysis (Prisma, 2009; 2015). QATSDD was for mixed method studies and an integrative review (Appendix 5). It is used by researchers in different types of literature review. This tool also standardizes the diverse studies to increase the accuracy of the assessments. Moreover, it comprehensively includes an evaluation of qualitative and quantitative aspects of research. (Sirriyeh, Lawton, Gardner & Armitage 2012, 746-752.)
The scores and percentages were used in the quality assessment checklists to facilitate the comparison of the quality between the studies with variety of study designs. The quality of qualitative studies (n=4) was high (80%) with mean 80%. The quality of the observational studies (n=15) was moderate to high (66%-95%) with mean 87%. Only one observational study was assessed to be moderate (66%). The quality of systematic reviews (n=2) was high (83%) with the mean of 83%. The quality of mixed method studies (n=2) was high (81%-91%) with mean 86%. The quality of an integrative review was moderate 56%. Quality scoring of reviewed studies is given on appendixes.

5.7 Data analysis

Data analysis is a process of creating a unified statement for the research problem by reducing separate data points (Braun & Clarke 2006). It is stated that data is collected by researchers or inquirers with an objective to synthesize the evidence in an innovative way so that they are thorough, and they interpret primary source of data in an unbiased way (Whittemore & Knafl 2005, 550). Furthermore, it is a process that usually follows data collection, however data analysis itself is not a linear process. Data analyzers are required to use different processes in different kind of researches, for example qualitative data analysis requires a lot of mental processes that consists of sensory impressions, intuition etc. The quantity of data and the style in which data is stored has a great influence on data analysis as it either facilitates or hampers the process. Researchers agree that data analysis is usually complex in qualitative studies. Qualitative studies demand the researchers to be fully committed on structured analytic process so that they really understand what data is trying to tell. (Streubert & Carpenter 2011, 44-46.)

Data analysis method used for mixed and qualitative research is equally applicable for integrated reviews process as it uses repetitive comparison of data throughout the primary studies (Whittemore et al. 2005, 550). This study performed data analysis by applying thematic analysis method using constant comparison including data reduction, data display, data comparison, conclusion drawing and verification (Miles & Huberman 1994, 11; Whittemore and Knafl 2005, 60). To understand thematic analysis, understanding the themes is vital. Desantis and Ugarriza (2000) defines theme as an abstract entity that brings meaning and identity to a current experience and its variant manifestations. Furthermore, a theme captures and unifies the nature or basis of the experience into a meaningful whole (Desantis & Ugarriza 2000). There are two different types of themes; semantic and latent. Semantic themes refer to the themes which is
identified through the surface meaning of the data, for instance themes developed from the actual data. In contrast, latent themes identify the underline ideas, assumptions and concepts emerged from the data. In other words, it is the interpretation of the data that creates new emerging themes. (Braun & Clarke 2006, 13.)

Thematic analysis is reductive by method. It contains masses of data in specific categorizes and divides them by items so extracted data can be compared further in the analysis and synthesis process. While doing so, primary data are organized, coded and categorized into a segment of common themes establishing differences in variations and relationships, and then an integrated conclusion is drawn from the themes. (Miles & Huberman 1994, 12; Polit & Beck 2018, 281; Cooper 1989; Whittemore 2005, 60; Whittemore & Knafl 2005, 550-551.) It tries to identify the patterns of themes across qualitative data (Percy et al. 2015, 80; Maguire & Delahunt 2017, 3352; Braun & Clarke 2006, 6) and seeks to apply them in addressing the research problem as well as defining the finding of the studies (Maguire & Delahunt 2017, 3353; Braun & Clarke 2006, 11). In a greater extent different aspect of study can be interpreted by thematic analysis, but nominally it organizes data set and explains it in detail. It also helps the researchers on finding out the relationship between concepts so that based on gathered data, comparisons can be made. (Alhojailan 2012, 40.)

Thematic analysis is believed to be the most suitable tool for research that seeks to find out a body of knowledge by interpretations and classification. Likewise, it allows the opportunity for understanding potency of any problem to the depth. (Alhojailan 2012, 39; Maguire & Delahunt 2017, 3352; Braun & Clarke 2006, 11.) Thematic analysis goes beyond matching distinct words and phrases with infinite probabilities for interpretation (Alhojailan 2012, 39; Maguire & Delahunt 2017, 3353; Braun & Clarke 2006, 11).

In this ILR after data reduction process, data were displayed and coded for a theme, constant comparison were done, and common categories of data were merged, and new emerging themes were created. After the initial theme categorization, the authors had read and re-read the primary references for assuring the data consistency and to achieve a genuine interpretation and insight from the results of the retrieved references.
6 Results of the analysis

Twenty-four studies were included for the final analysis. Out of those, fifteen articles were quantitative studies, four were qualitative studies, two were systematic reviews, two were mixed method studies and one was an integrative review. This review includes the results of studies that compared between Magnet and non-Magnet hospitals as well as studies that examined Magnet hospital characteristics related to nurse and patient outcomes. Due to the heterogeneity of the selected research articles, a broad range of themes were emerged. The results explored a wide range of themes ranging from the Magnet hospital structure to the different attributes of Magnet hospital work environment and the outcomes correlated to it. Thus, the themes emerged from analyzing the retrieved articles were Magnet hospital characteristics and Magnet hospital outcomes. Under Magnet hospital characteristics there were shared governance, Professional Nurse Practice Environment (PNPE), eight attributes of Magnetic work environment. Similarly, under Magnet hospital outcomes there appeared nurse and patient outcomes, empowerment and Magnet hospital, nurse leader’s role in nurses’ empowerment, and healthy work environment and nurse job satisfaction.

6.1 Magnet hospital characteristics

A high volume of literature has shown that Magnet hospital provides higher standards of care, higher level of nurse job satisfaction and patient outcomes. Moreover, a better job-related outcomes, an improved work environment and better patient care have been reported in Magnet designated hospital. (Chen and Johantgen 2010, 1008; Aiken et al. 2008, 3332-3334; Kelly et al., 2011, 428-433; Schmalenberg & Kramer 2007, 465; Ridley et al. 2009, 33; Salmond, Begley, Brennan & Saimbert 2009, 1136-1145.) Likewise, Magnet hospital have been recognized for high presence of empowering structures (Upenieks 2003, 89). Similarly, Schmalenberg et al. (2007) found that emerging Magnet hospital scored high on adequacy of staffing, control of nursing practice, high improvement in patient-centered values and RN-MD relationship. Magnet hospital have gained improvements in nurse work environment attributes such as collaborative practice between nurses and physicians, nursing participation in hospital governance and adequate resources. Nurses practicing high autonomy and equal participation in decision making were highly visible in Magnet hospital. It has been reported that these are some of the most influential factors for achieving positive patient outcome. Likewise, workplace stability was another feature of Magnet hospital which has a major role to play on better nurse and patient outcome. (Kutney-Lee et al. 2015, 552-556.)
According to Kramer et al. (2004b) a culture that values and enable EOM promotes work satisfaction of nurses and helps to improve quality of patient care. Similarly, IOM (2003) stated that Magnet designation are found to meet nurse working conditions by improving the essential elements for patient safety. The substantial framework of Magnet model constitutes interdisciplinary collaboration, shared governance and strong leadership contributing towards establishing a good organizational culture that enhance nurses’ performance (Barnes, Rearden & McHugh 2016, 102). Magnet hospitals have a positive organizational climate (Salmond et al. 2009, 1136), due to this framework they are also recognized and valued for high quality care and promoting nurses’ competencies (Ridley et al. 2009, 31). Overall, after analyzing the studies, PNPE, shared governance, and eight attributes of EOM were emerged as Magnet hospital prominent characteristics.

6.1.1 Professional nurse practice environment (PNPE)

Magnet designation has an impact on the professional practice environment of nurses (Aiken et al. 2008, 3332-3334; Kelly et al, 2011, 5; Schmalenberg and Kramer 2007, 465; Ridley et al. 2009, 33; Salmond et al. 2009, 1136-1145). There have been evidences that Magnet hospital have a better professional practice environment, nursing processes and scheduling climate. Likewise, nurses scored high for conditions of work effectiveness, power and empowerment in comparison to non-Magnet hospitals. (Salmond et al. 2009, 1136.) Furthermore, nurses in Magnet hospitals rated their experience of practice environment higher in comparison to non-Magnet hospital. More significantly, Magnet environment constitutes of a higher level of Magnet forces which creates a PNPE. (Salmond et al. 2009, 1131; Anderson, Johnston, Massey, D. & Bamford-Wade, A. 2018, 4-17; Aiken et al. 2009, 5-14, & Havens & Aiken 1999, 14-20.)

There are evidences that the professional practice environment of Magnet designated hospital results to increase nurse retention and job satisfaction, decrease burnout, and increase patient safety, and thus demonstrates an enhanced work culture (Salmond et al. 2009, 1146; Kramer and Schmalenberg 2004a, 53; Aiken et al. 2012, 281-291; Kelly et al. 2011, 428-423; Kutney-Lee 2015, 550-557; Anderson et al. 2018, 4-17, & Upenieks 2003; 83-98). According to the ANCC, a standard criterion for Magnet designation is showing evidence of improvement in nurse practice environment (Kramer & Schmalenberg 2004a, 53). Overall, the method of pursuing Magnet status is a transformative process to create an environment that is more supportive to professional nursing practice (Salmond et al. 2009,1146; Kramer and Schmalenberg 2004a, 53; Anderson et al. 2018, 4-17). It enhances an institution’s culture specifically from nurses’ perspectives (Aiken et al. 2008, 3337).
It is the professional positive work environment in which nurses will be committed and would like to stay (Armstrong & Laschinger 2006, 128; Armstrong et al. 2009, 59; Upenieks 2003, 89). “Excellence is to do a common thing in an uncommon way.” An excellent hospital nurse work environment is one in which nurse leadership provides the right structures, practices, and people. This enables clinical nurses to do the right things correctly, thus producing desired outcomes for patients, staff, and the organization. ((Armstrong & Laschinger 2006, 128; Armstrong et al. 2009, 59; Upenieks 2003, 89.)

6.1.2 Shared governance

One exceptional functional structure in Magnet hospital that differs from the conventional organizational structure is “shared governance”. Eight studies in an integrative review by Anderson et al. (2018) identified the shared governance as the central component of Magnet model. Shared governance is a structure that fosters and enables control over nursing practice (CNP). It is an innovation from nursing management that enables nurses’ CNP and decision making, also expanding the influence on administrative section which, previously was only controlled by management. Shared governance is founded on the principles of partnership, ownership, equity, and accountability and is prepared to eliminate traditional hierarchical system that focus on command and control and, thus, allowing nurses to control over their practice and their practice environment. (Kramer et al. 2008, 540.)

Precisely, shared governance changes organization’s structure from hierarchical construct into flattened and foster transformational leadership which eventually assists nurses in achieving higher nurse autonomy and empowerment (Anderson et al. 2018, 4-17). Supporting to this fact, Friese et al. (2015) found that Magnet hospital have lesser hierarchical structure and work environment elements that enhance nurses’ autonomy, assess and recognize nursing-sensitive quality indicators and nurse staff are more satisfied. A shared governance incorporates the notion of partnership, equity, accountability and possession. Thus, it provides nurses the possibility to be involved in decision making at every scale of the institute which also develops interdisciplinary relationship throughout the institute and results to a fostered nursing practice, job satisfaction, and financial sustainability. (Anderson et al. 2018, 4-17.)

It was identified that building a shared governance model was significant in developing transformational leadership and these leaders were the momentous in flourishing a
positive organizational environment. Transformational leadership is vital in attaining nurse autonomy and creating constructs that fosters change. A transformational leader moves beyond the conventional leadership style and influence the followers as a role model through intellectual stimulation, and individualized consideration. Transformational leadership is reliant on the planned and emergent change approach and the current organizational constructs. Magnet hospitals headed by transformational leadership are able to provide nurses increased autonomy in their role, and a larger input to governance in their work environment. Leadership that delivers an organizational encouragement are vital for accomplishing positive outcomes at all levels. (Anderson et al. 2018, 4-17.)

6.1.3 The eight components of essentials of Magnetism

EOM are the attributes of a functional work process in a Magnet model. A brief introduction about EOM was given in chapter I. These eight attributes should be implicated in nurse work environment to achieve Magnet designation: 1) Support for education and professional development; 2) Working with other nurses who are clinically competent; 3) RN/MD relationships; 4) Autonomy; 5) Control over nursing practice (CNP); 6) Nurse manager support; 7) Adequacy of staffing ; and 8) Organizational Culture. (Kramer & Schmalenberg 2004a; 2005; Mcclure & Hinshaw 2002.)

1) Support for education and professional development

Educational support and professional development as an EOM was formulated based on the descriptions collected from numbers of staff nurses in Magnet hospitals. Four separate tools were used to measure the extent of organizational support for education. These tools were based on the information provided by staff nurses on favour of their organizational support for education. These tools would measure the availability of opportunities, financial help, other valuation of education and reward for education provided by organizations. (Kramer and Schmalenberg 2004a, 51.)

Numerous important comments were collected during the interviews which would elaborate the emphasis on education and support on professional development programs. One of the responded said “Education is really important in this hospital, thus to support the employees on their education they are provided six paid days of educational leave per year. Employees can get advantage of receiving money to pay for the week-long
courses. Because it is important to stay updated for the quality care, the doctors and other administrative staffs support on obtaining new knowledge. After completion of my studies when I returned back, a doctor asked me about my learning. It was not only for the sake of asking as he stood there and listened to me as he really wanted to know.” (Kramer & Schmalenberg 2004a, 51.)

The chances for enhancement of professionalism on the work have been found to be markers of professional development (Chen & Johantgen 2010, 1009). Support for education is found to be playing a vital role on providing quality patient care and job satisfaction. Nurses and physicians in the Magnet hospitals agree that educational support is important for autonomous practice and for better RN/MD relationship. Similarly, scholarly studies have found that educational support attracts nurses and supports on nursing retention. (Kramer & Schmalenberg 2004a, 51.) Realizing the importance of offering educational opportunities and mentoring programs, several hospitals have started offering career support programs specially to the novice nurses (Aiken et al. 1997, 6). Moreover, high professional development achieved from higher education is found to be one of the reasons for higher level of job dissatisfaction. Nurses who have opportunities to learn new things at work are also found to be satisfied to their work. Likewise, they are willing to take an initiative of using their skills in their work to complete the task of patient care. Despite, professional development opportunities are deemed as a tool to promote professionalism of staff nurses, it may be perceived as additional workload or burden if adequate supports or rewards are not guaranteed. Therefore, the nurse managers are suggested to provide adequate support and resources to nurses pursuing further education to assure a healthy learning environment. (Chen & Johantgen 2010, 1009.)

Studies have shown that Magnet hospital nurses receive more educational support than nurses in Magnet aspiring or other hospitals, which would turn as highly valuable in recruitment and retention (Kramer & Schmalenberg 2004a, 51). Similarly, hospitals observed significant improvement in career support programs in Magnet era in comparison to pre-Magnet era (Aiken et al. 2008, 3330-3337). Contradictory to the Magnet hospitals’ emphasis on education support, some of the studies have come to surprising result that more than 50% of nurses in Magnet hospitals do not receive rewards for their education. However, Magnet hospitals’ reward are quite visible in comparison to other hospitals, nurses would appreciate a concrete monetary compensation upon receiving the degree. (Kramer & Schmalenberg 2004a, 54.) It was also evident from one study that nurses of MSICU do not highly value certification as a baseline of different processes leading toward healthy and productive work environment. It may be due to the
lack of awareness or nurses in MSICU do not understand the potent of a certification. (Schmalenberg & Kramer 2007, 465.)

2) Working with other nurses who are clinically competent

Magnet hospitals demands clinically competent nurses in the workforce. This competency is deemed to be important for the quality care to patients. In most of the cases, special certification and any academic qualifications achieved by the nurses are considered as evidence of clinical competence as they empower nurses to see the needs of patients in an objective manner. With the help of competent nurse managers, hospitals can act on resolving problems identified by nurses in patient care. Additionally, they can make significant improvements on developing good relations among nurses and supplementary support services. (Kramer & Schmalenberg 2004a, 54.) With the help of hospital administrators, nurse managers can become effective and efficient on problem solving as well (Aiken et al. 2009, 5-6). The feedback received from the peer review are also considered as clinical competency and mostly they are highly reinforced by the hospital management (Kramer & Schmalenberg 2004a, 51). Although clinical competency is generally highlighted as the most important in all hospitals, non-Magnet hospitals were found to be lacking the competency. Conversely, a high competency ratio was found in Magnet hospitals which was a detrimental factor for job satisfaction as well. Empirical studies have also demonstrated a direct link between the degree of specialization and better nurse-physician relationship. Likewise, it also has positive relation with clinical autonomous decision and perceived clinical competency. (Schmalenberg & Kramer 2007, 465; Kramer & Schmalenberg 2004a, 51.)

Studies have found that Magnet hospital staff nurses see their co-workers more competent than in Magnet aspiring or other hospitals. They are found to acknowledge national /special certification as the evidence of clinical competency in their work setting. Similarly, nurses in Magnet hospitals were found to be more likely to report the rewards by hospitals for clinical competency in comparison to other hospitals. (Kramer & Schmalenberg 2004a, 52.) The recognition of Bachelor of science in Nursing (BSN) has been acknowledged as an evidence of competency by 60% of the nurses in all kinds of hospitals. 90% of the nurses in Magnet hospitals reported that they were rewarded with salary increment for the BSN certificates, which proves that education is valued and rewarded, and degrees are appreciated as evidence of competency. (Kramer & Schmalenberg 2004a, 54.) Despite, the MSICUS has the highest number of registered nurses with 35.2% of nationally certified nurses among ICUS, they find clinical
competency of peer to be the lowest (Schmalenberg & Kramer 2007, 465). Nonetheless, certification alone is not a marker of competency.

3) Nurse-physician relationships

Interviews with a large number of nurses in various hospitals resulted on identification of five different types of nurse-physician (RN-MD) relationship in health setting: 1) collaborative relationships, 2) collegial relationships, 3) student-teacher relationships, 4) friendly stranger relationships and 5) hostile/adversarial relationship (Kramer and Schmalenberg 2004a, 52). In the collaborative and collegial relationships, the nurses and physicians work with mutual respect and trust for the advantage of the patient. They entertain equal right and power in collegial relationship. Depending on the situation and learning level, nurses play the role of teacher or student in student teacher relationship. Even though the person in the role of teacher have more power, both of the participant benefit from this relationship. In a friendly stranger relationship, there is a formal exchange of information and the powers are somehow unequally distributed. However, in a friendly relationship if physicians do not acknowledge the information received from the nurses, the situation may make nurses feel less worthy. Similarly, due to the minimal communication exchange, the patient outcome may suffer. Similarly, hostile/ adversarial relationship usually creates negative impact for the nurse and patients as they are result of anger, frustration, abuse or other negative behaviours. Power is generally unequal in this kind of relationship. (Kramer & Schmalenberg 2004a, 52-53.)

Collegial and collaborative relationship was found significantly higher in Magnet hospital. Differences were identified in RN/MD relationship among Magnet, Magnet-aspiring and other hospitals. Half of the nurses in most of the hospitals still ranked collegial or collaborative relationships as 137th in the list of 250 due to the reason of poor working relationships with physicians. In addition, Magnet hospitals were found to have moderate RN/MD relationships at the hospital level. (Kramer & Schmalenberg 2004a, 53.) One distinctive trait related to it was job satisfaction in the Magnet hospitals which were found to be mainly guided by the construction of interdisciplinary relationship that reflects relationships between colleagues (Chen & Johantgen 2010, 1009). Notably, another significance of nurse-physician relationship is that nurses with established effective relationships with physicians would be trusted to operate independently and have a greater opportunity to exhibit their expertise (Armstrong & Laschinger 2006, 129).
Poor teamwork and weak interpersonal relations were found to be the major factor for European staff nurses to leave the job. To improve this situation a good relationship between nurse and physicians is necessary. (Chen & Johantgen 2010, 1009.) It also boosts nurse job satisfaction level and job retention. Staff nurses are found to be more satisfied with their job in the individual level when they are valued by their co-workers for their work. In addition, their relaxed and friendly relations with co-workers and doctors also have positive effect on work environment and patient outcome. It seems that to maintain a good collegial relationship with nurses, it is necessary for physicians to understand and appreciate the source of the structural empowerment. Staff nurses are structurally empowered because they have the access and capability to control physician’s access to information about the patients as nurses are continues observant of patient. When physicians apprehend the fact that they need nurses for the assessment and knowledge, the collegial relationship between them is likely to flourish. Collaboration can work as a first step toward maintaining a better RN/MD relationship nonetheless this alone is not enough. (Kramer & Schmalenberg 2004a, 54.)

4) Autonomy

Based on the descriptions and examples collected from 289 staff nurses working in 14 Magnet hospitals, Kramer & Schmalenberg (2004b) have defined autonomy as the freedom to act or to make independent clinical decision based on their clinical knowledge. The decisions made must be oriented towards the best interest of patients that also exceeds the standard nursing practices. Similarly, they must value the trust and organizational sanction for autonomous practice in health settings. (Kramer & Schmalenberg 2004b, 44.) Autonomy of nursing practices concerns more on the timeline of nursing work than the processes of how to do them. Autonomy of nursing practices focuses mainly on three domains: work type, work pace and work schedule. (Chen & Johantgen 2010, 1009.)

Nurses consider knowledge acquired by evidence-based practice to be essential for autonomous practices. Studies have found that that conditions that promote staff nurse autonomy are held accountable in a positive and constructive manner in Magnet hospitals. Hospitals also experienced significant positive changes in nurse autonomy during the Magnet standard implementation phase. Describing the evolution of autonomous nursing, an experienced Magnet hospital staff nurse shares her experiences by saying “In the 1980s, refusing to give a patient a contraindicated drug was an act of heroism; in the 1990s, it was an example of autonomy; today, it’s standard nursing
practice.” Nurses want their managers to be terrific and respectful who grant them the freedom to act autonomously. (Kramer & Schmalenberg 2004b, 45.) Based on the Rochdale hospital; a Magnet hospital’s result, it can be said that nurse autonomy increases when Magnet is implemented (Aiken et al. 2008, 3333-3334). Similarly, in Magnet hospitals a greater degree of acknowledgement of combined sphere of practice and organizational sanction are found. However, some factors such as necessity of consent, risky and non- trusting atmosphere that inhibit autonomous practice are reported to be found in Magnet hospitals as well. (Kramer & Schmalenberg 2004b, 45-46.)

5) Control over nursing practice

Control over nursing practice (CNP) is a participatory process which is enabled by visible, organized and feasible structure (Kramer & Schmalenberg 2004b, 47). Magnet hospital nurses define CNP as a process that enables nurses for their ability to put input and comprising of access and exchange of information. Additionally, this process ensures opinions and judgements of nurses by engaging them in decision making processes regarding to practices, standards, and policies that have effect on their profession, nursing practice and the quality of care. CNP is defined as “decentralized, shared decision-making” and is one of the criterial areas to assess hospitals for Magnet status. (Kramer et al. 2008, 539-543 & Kramer & Schmalenberg 2003, 434-452.) Definition of CNP is formulated by combining and analysing the data collected from 289 staff nurses interviewed at Magnet hospitals (Kramer & Schmalenberg 2004b).

The implementation of shared governance does not always lead to CNP. Nurses in their interview agreed that shared government as structural with nurses on council and committees only, without decision making authority will lead to cynicism, unwilling and reluctance to participate as well as denying accountability for outcomes. CNP is imperative for the structural development of nurse work environment, evidence-based practice, sanction and positive accountability. Thus, nurses need support from managers and administration to achieve autonomy and CNP. (Kramer & Schmalenberg 2004b, 47; Kramer et al 2008, 539-543.)

The total score for Magnet hospitals for autonomy and control over nursing practice was higher than Magnet aspiring and other hospitals. Consequently, showing link between job satisfaction and retention of Magnet hospital nurses to autonomy as a determinant
factor. Furthermore, CNP was shown to favour productivity and quality care strongly. (Kramer & Schmalenberg 2004b, 46.)

6) Nurse manager support

Quality of nursing services are usually based on the roles of the supervisor or nurse managers (Chen & Johantgen 2010, 1008). Nurse managers as leaders are in the best position to assess staffs’ perception of support. They can understand the adequacy of staffing by initiating dialogue between staff and other leaders and can also formulate and implement required changes upon necessities. (Kramer et al. 2004a, 47.) Based on these arguments, it can be said that hospital needs an intelligent and courageous nurse leadership in order to get the best nurses’ and patients’ outcomes.

Today, nurse manager roles are shifting in terms of what they are doing and what they are expected of. At present, more than ever, leadership behaviours and working model of nurse managers are highly expected that meet the current needs of nurses. As a distinctive change in nurse manager role, more than managerial, the role and expectations today are towards leadership. Any changes in structure and roles of a nurse manager need to be discussed with staffs openly, as any changes may have positive or negative effects on how the nurses work and behave. The prior discussion of changes is helpful and may assist on meeting staff expectations. (Kramer et al. 2004a, 46.)

A nurse manager has some significant roles and they are expected to demonstrate those in today’s competitive and challenging healthcare industry. It is found that the input and role of a nurse manager holds the most importance on fostering a work environment as a Magnetic work environment. On another note, it also puts light on the requisites of a supportive environment for nurse managers so that they become able to execute their roles efficiently. Further, nurse managers are supposed to demonstrate five managerial and five leadership behaviours. Staff counselling, orientation to physicians, growth opportunities, procurement and allocation of resources and facilitation of a highly professional staff to work together are some of the most important functions of nurse managers highlighted by 14 Chief Nurse Executives (CNEs) and 132 nurse managers from 14 Magnet hospitals. They asserted that the creation of a Magnetic work environment demands staff nurses to get support from nurse managers that ultimately leads to work productivity, job attraction, job retention and job satisfaction. (Kramer et al. 2004a, 45-47.) Undoubtedly, it can be said that with the right nurse leadership, they can thrive.
A detail on the role of nurse manager on nurses’ empowerment and in creating a professional practice environment will be explained below.

Studies conducted on 289 Magnet hospital nurses have found that the role of nurse manager in Magnet hospitals are more visible and leading in nature. Comparatively, nurse managers in Magnet hospitals are making transition rapidly to the new roles than in any other hospitals. With the support from their nurse managers, staff nurses can achieve high professional performance and meet the expectations as well. (Kramer et al. 2004a, 44-46.)

7) Adequacy of staffing

Vacancies taken by staffs and their turnovers, nursing care time per patient, patient acuity indexes and skill mix are few of the indicators used by traditional nursing leaders on measuring adequacy of staffing. Added in the modern context; competence of co-workers and coordination between staffs also affects on the perception of adequacy of staffing. Additionally, factors such as computerized order entry, number of new graduates, permitted degree of autonomy, type of delivery care system and support adequacy are also considered as factors that affect in staff adequacy. Kramer et al. (2004a) tested staff’s perception of the adequacy of staffing with a single global indicator, which is number of staffs itself. The study found that 61% of responded in Magnet hospitals thought that they were adequately staffed in comparison to 54% in Magnet aspiring and 49 % in other hospitals. The total number of respondents were 2355, 925 and 1040 respectively in Magnet, Magnet- aspiring and other hospitals. (Kramer et al. 2004a, 46-47.)

8) Organizational culture

Organizational culture is shared system of values that guide members to solve problems in a pattern. They can adapt to change and manage relationship based on the organizational culture. Organizational culture designs the beliefs and shared understanding in the work setting which basically guide the staffs to act and behave. A culture that values and enable the essentials of Magnet supports on increasing work satisfaction of nurses. (Kramer et al. 2004b, 48.) In general, an organizational culture is built up with two major components; shared values and norms. Shared values are designed by most of the people working in a group that defines the goals and beliefs of
the organization. Norms guide employees to conduct acceptable behaviour by control and regulations. (Kramer et al. 2004b, 44.)

Organizational culture has an important role to play on the quality of nurses’ work lives and the quality of the care they provide to patients. Magnet hospitals recognize the need to be proactive and value driven (Kramer et al. 2004b, 46), which itself is a reflection of organizational culture. Concern for the patient has been reported by many Magnet hospital staff nurses as their paramount concern and value. Every department has its own subculture in a hospital. The dynamism, strength, vitality and the adaptability of any culture /subcultures rely on the degree of communication among each subculture. Nursing leaders are primarily responsible to establish, maintain and alter culture in the organizational context. Nursing leaders also need to anticipate and recognize any changes in line with cultural values so that they transform according to the organizational setting. Along with other attributes of culture, the value of patient care was tested in the EOM cultural value scale. (Kramer et al. 2004b, 45-47.)

6.2 Patient outcomes

According to Barnes et al. (2016) hospitals in the process of achieving Magnet status have improved nurse work environment and positive patient outcome in comparison to non-Magnet hospital suggesting that the process of Magnet recognition can be transformative. Significantly, Magnet journey is a contributor on reducing nurse job dissatisfaction and their intention to leave their jobs. These indicators are fundamental precursors to the voluntary turnover of nurses. (Aiken et al. 2008, 3335.) Likewise, they have good plans and policies to decrease infection rates in hospitals and aim to enhance quality patient care (Barnes et al. 2016, 103). Patients themselves can realize the results of Magnet interventions as they can experience the improved quality care. The Magnet recognition are self-evidentiary on proving the positive effects on the hospital structure and nursing workforce. (Aiken et al. 2008, 3335; Aiken et al. 2009, 6.)

Apparently, Kramer & Schmalenberg (2004a) finds that Magnet hospital staff nurses have better collegial RN/MD relationships and clinical competences as avenues to better patient care. With more than 90% of Magnet hospital nurses stating, “concern for the patient is paramount” Magnet hospitals are proven to be more oriented toward patient outcomes in comparison to Magnet aspiring (78%) and other hospitals (58%). (Kramer et al. 2004b, 45.)
In a study by Boyle (2004) conducted in 21 hospital units it was identified that NWI-R characteristics had persistent correlation with particular patient adverse events. The result demonstrated that autonomy/collaboration had a statistically significant inverse correlation with failure to rescue and nosocomial Urinary tract infection (UTI) ($r=0.29$) whilst a positive relation with pressure ulcers. Furthermore, higher level of nurse manager support was linked to lower death rates and lower pressure ulcers. Similarly, high practice control was linked to lower UTI, fall and death. (Boyle 2004, 115-116.)

The opposite association of autonomy with failure to rescue informs that higher autonomy has better communication flourishing early detection of change in clinical condition so that fewer adverse events and events of failure to rescue does occur. Furthermore, it was understood that positive association of autonomy/collaboration with pressure ulcer is due to the unit practice routine that nurses frequently assess skin, so that pressure ulcers can be prevented or recognized at an early stage. High practice control group with fewer UTI resembled that there were appropriate number of staff and resources for prompt attention to tiny facts for e.g., removing of continues catheter and timely toileting patient. High nurse manager correlation to lower prevalence of pressure ulcer highlighted nurse manager roles in establishing unit practice approach for staff that influence patient outcome. Similarly, high practice control and fewer death stating a unit with increase practice control has staff capacity required for quality patient care resulting lesser death rates. The finding matches with previous findings, which reported lesser deaths rate was due to the level of autonomy, control over practice and collaboration in the Magnet hospital instead of increased number of nurses. (Boyle 2004, 116.)

A 13-year period (1998-2010) of study in surgical patients treated in Magnet hospitals showed a significant low rate of 30-day mortality (5.8 vs 6.3) and failure to rescue in Magnet hospitals in comparison to non-Magnet hospitals. Similarly, patients treated in Magnet hospitals were 7.7% less likely to undergo 30-day mortality than patients in the non-Magnet hospital (95% confidence interval: 0.89, 0.96). Patient treated in Magnet hospitals were 8.6% less likely to die after a postoperative complication than patients treated in non- Magnet hospitals (95 CI: 0.88, 0.95). The outcome persisted after adjustment for hospital characteristics, patient severity and other features. (Friese et al. 2015, 987-989.)
A result of a longitudinal study conducted between 1999 to 2007 that examined and compared changes over time in surgical patient outcome and nurse outcome showed that considerably Magnet hospitals had lower patient to nurse ratios (1999: 5.0 vs. 5.8, \( P = 0.02 \); 2006: 4.9 vs. 5.8, \( P < 0.001 \)). Similarly, Magnet hospitals scored high in the overall PES-NWI assessment and all 5 subscales in comparison to non-Magnet hospitals. (Kutney-Lee et al. 2015, 552-556.)

A remarkable finding was made in 1999, that established a fact that there was no significant difference between emerging Magnet hospitals and non-Magnet hospitals. Likewise, outcomes in the emerging Magnet hospitals such as nurse job outcomes, nurse reported quality outcomes, and patient outcomes were substantially no different than in non-Magnet hospitals. However, by 2006 huge difference between Magnet and non-Magnet hospitals were visible. Although non-Magnet hospitals were also upgraded, the growth rate was substantially lower than Magnet hospitals. Nurses intent to leave was dropped by 16% in contrast by just 9% in non-Magnet hospitals. Similarly, job dissatisfaction in Magnets was reduced by nearly 9 % (\( p<0.01 \); (38.10->21,23), burnout level was decreased (29.7 vs 38.4, \( P < 0.001 \)) and job satisfaction (21.2 vs. 30.9, \( P < 0.001 \)), and intentions to leave their job (8.9 vs. 13.4, \( P < 0.01 \)) were also reduced in comparison to non-Magnet hospitals. (Kutney-Lee et al. 2015, 552-556.)

The 30-day surgical mortality rate was substantially lower in hospitals which had obtained Magnet designation (1.28 vs. 1.51, \( P = 0.05 \)). Similarly, Nurse confidence in patients’ ability to manage care when discharged was increased from 36.24 to 59.56 and confidence that management will assist in solving patient care problem was increased from 28.7 to 48.39. Likewise, the scope of nurses rating the quality of care as ‘excellent’ was increased in Magnet hospitals by over 9% than in non-Magnet hospitals. Among the PES-NWI subscales, participation in hospital affairs had the highest difference which was higher in Magnet hospital with a difference of 0.43. (Kutney-Lee et al. 2015, 552-556.)

McCaughey et al. (2018) explored the perception of patient’s experience between Magnet and non-Magnet hospitals. The study correlated Magnet hospital’s five principal components using the PES-NWI with patient assessed hospital environment using the Hospital Consumer Assessment of Health Providers and Systems (HCAHPS) score which constitutes of nurse communication, physician communication, responsiveness of hospital staff, quality of the hospital room, and the ability to get help when needed. It was asserted that when these two indicators are taken together it holds a higher possibility of bringing forward Magnetic nursing work environment attributes in relation to patient’s
experience. The result showed that Magnet hospital status and excellent nurse communication were highly linked with hospital experience of patients. In other words, Magnetic work environment lead to better patient experience of overall hospital service. (McCaughey et al. 2018, 1-11.) Similarly, another study by Salmond et al. (2009, 1128) found that Magnet hospitals have better Global Hospital Performance (GHP) and are associated with lower lengths of stay and lower patient admission rate.

A study conducted to demonstrate the relationship of Magnet status to nursing excellence indicator and greater CLABSI rates in hospitals by Barnes et al. (2016) showed that Magnet hospitals had lower than the national average (29%) CLABSI rate in comparison to non-Magnet hospitals. The essential hospital attributes were controlled through propensity matching of Magnet and non- Magnet hospitals. The findings reveal that organization produce better outcome when they are awarded Magnet status. Similarly, Magnet recognized hospitals have better nurse retention, job satisfaction and lower mortality rate. They have good plans and policies to decrease the infection rate. Thus, Magnet designation and recognition are linked to quality patient care and better patient outcome. (Barnes et al. 2016, 103.)

6.3 Nurse outcomes

The opportunity for further education and autonomy were high in Magnet hospitals than in non-Magnet hospitals (Upenieks 2003, 89; Buffington et al. 2012, 276-281). Supporting this finding, a study by Barnes et al. (2016) confirms that autonomy enhances better work environment and nurse outcome. Similarly, Magnet hospital nurses are found to have high access for professional growth; especially for clinical growth opportunities. Magnet hospital nurses notify that there are clinical ladder opportunities and active staff development schemes. Further, majority of nurse leaders claimed Magnet hospital to be a perfect hospital due to its dynamic organization and multiple opportunities for nurses. Additionally, nurses also represent at the top of hierarchical level with respect and nurse leaders themselves advocate for the nurses. (Upenieks 2003, 95.)

Nurses in Magnet hospitals found their managers quite supportive of their practice decisions and also while making autonomous decision in comparison to managers in non-Magnet hospitals (Upenieks 2003, 89-96). A study conducted in Magnet hospitals found a nurse executive with equal power as other top executives. Similarly, high standard of care was maintained by the administration team in the Magnet hospitals. (Buffington et
Likewise, Magnet hospitals were found with some other significant features such as; better nurse patient ratio and resource adequacy, and high participation of nurses in hospital affairs (Ridley et al. 2009, 28-33; Salmond et al. 2009, 1134), which can evidently explain the difference in job satisfaction between Magnet and non-Magnet hospital nurses group.

One crucial aspect of Magnet hospital is its high emphasis on support for education. In a study it was found that nurses were supported for onsite MSN education in Magnet hospitals where over 70% of nurses in one critical unit had obtained a master’s degree (Schmalenberg & Kramer 2008, 13). The high portion of staff nurses with BSN and MSN and also with doctoral level demonstrates the high priority that Magnet hospital puts on education. Nurses at Magnet hospitals are specially certified and highly educated and have a higher opportunity for growth. (Kelly et al. 2011, 430-432; Salmond et al. 2009, 1136; Schmalenberg & Kramer 2008, 13; Schmalenberg & Kramer 2007, 465.) Similarly, nurses in Magnet hospital comprehend a competent work force in comparison to other hospitals (Ridley et al. 2009, 28; Aiken et al. 2000, 26-36).

Magnet leaders assert the importance of continuing education and appropriate staffing for promoting job satisfaction (Buffington et al. 2012, 276-281; Upenieks 2003, 89-91). Similarly, Nurses are offered ample challenges for fostering creative ideas (Ridley et al. 2009, 28-31; Upenieks 2003, 89-91). Additionally, nurses are provided opportunities to apply new wisdom and expertise in their workplace (Salmond et al. 2009, 113; Ridley et al. 2009, 31). Larger number of nurses recommend preceptorship program in Magnet hospitals with a belief that this program can provide a positive initiation and could be empowering for the nurses. Nurses stressed out that although it is challenging to perform on a day to day basis, this program offers opportunities to share knowledge by becoming visible among the peers. (Ridley et al. 2009, 34.)

Upenieks (2003) investigated whether Magnet hospitals are able to provide higher nurse job satisfaction and empowerment in comparison to non-Magnet hospital. Nurses at Magnet hospitals experienced higher levels of empowerment structures in their practice environment compared to non-Magnet hospital. It was found that despite nurses from both hospitals had high access for opportunity structure, the overall empowerment features and job satisfaction was high in Magnet hospitals than in non-Magnet hospitals because of the accessibility to empowering structures. These essential organizational structures are centered on professional autonomy, honor and appreciation of professional
nursing practice, and efficient communication between nurses and the leadership team. (Upenieks 2003, 89-91.)

Non-Magnet hospitals were found to rate power significantly higher over empowerment. This resembles that nurses at non-Magnet hospitals perceived they had moderate information to do their jobs but lacked both time and enough resources to do their work. They lacked adequate staff support to provide quality care, and lack of response from administration concerning patient care. Along with it, they reported lack of opportunity for continuing education and low support from administration. They experienced existence of only a moderate level of autonomy in work environment and a lower control over practice in comparison to Magnet hospitals. Additionally, along with the positive nurse outcomes in Magnet hospitals, there was some lacking features. Magnet hospitals had low access to power structures which reveals that Magnet nurses had moderate access to information and support, yet they did not have sufficient resources to do their work. Thus, Magnet hospital nurses lacked support assistance like a supplementary help team. Similarly, they perceived lack of enough time in providing quality care to patient and to get engaged in the internal administration and management issues. (Buffington et al. 2012, 276-281; Upenieks 2003, 89-91.)

In order to explore nurses’ professional development in Magnet hospital nurses, they were asked about their professional goals for the next one and five years. In the first year of career nurses expressed to develop competence in the present role, engaging in unit development activities and participate in developing committees, gaining specialization certificates, attending seminars and training, and obtaining further authorization offered by the hospital professional practice system. For many the five-year professional goals were similar with few of added goals such as: studying Master’s degree or higher studies, publishing own studies, and transferring to new position inside the hospital, and retirement. Answering to the question if mentoring was provided to obtain these goals, 39% (n=227) agreed that mentoring was offered to accomplish the goals. Nurses stated that in the past years they participated in activities that fostered their professional development. The career development activities that nurses mentioned were membership in a professional organization, signing up to a nursing journal, and engaging in hospital/unit committee. (Buffington et al. 2012, 278.)

Most of the nurses upon asked for their preference on recognition and appreciation, they answered that they wanted to receive recognition for unit-based achievements. Additionally, they wanted to be valued and praised verbally by the manager and educator
and receive a personal thank you note from patients and families as an appreciation to their work. They also recommended the nurse manager to reveal their interest in nurse employees and to initiate quality discussion with nurse manager and hospital leaders. They also emphasized on receiving prompt compliment and gratitude from them in regular basis but not just limited to an annual evaluation. (Buffington et al. 2012, 278.)

Other different themes emerged as influencing factors in nurse retention were salary and benefits, staffing and scheduling, management and leadership, and appreciation and recognition. Large number of nurses responded in regard to better nurse patient ratios (N=46), better pay (n=149), improved benefits (n=36), improved manager support and respectability (n= 23). Most of the nurses stressed out on the need for enhanced manager support, shared leadership and a necessity on listening to nurses’ ideas/concerns. The visual appreciation and recognition were related to acknowledging nurses’ contribution and achievements and demanded highly. Similarly, staffing nurses’ desire for self-scheduling, flexibility and predictability, shorter shifts, elimination of rotation, and improved staff resources were highly emphasized for better patient-nurse ratios. Maximum numbers of nurses stressing out for better pay in terms of salary and benefits states that better payment and pay raise would foster staff retention. (Buffington et al. 2012, 278.)

6.4 Empowerment structures and Magnet hospital characteristics

Studies conducted by Upenieks (2003), Armstrong & Laschinger (2006), Armstrong et al. (2009), studied the linkage among empowering work structures, Magnet hospital characteristics, and patient safety and found that patient safety climate was highly associated to work empowerment structures such as access to support, informal power, and opportunity to acquire knowledge and flourish. As an eminent finding of the research it was identified that nurses in an empowered work environment experienced a fair level of Magnet hospital characteristics in their work settings (r=0.69; P = .001). More precisely, overall empowerment was strongly related to leadership ability (r=0.66; P=.001) and nurse participation in hospital affairs (r= 0.64; p= .001) and in a lesser extent to nurse-physician relationships (r= 0.43; p=.001). (Armstrong et al. 2009, 59.) Similarly, the study found that the overall empowerment was favorably linked to perceptions of patient’s safety (r=0.60; p=.001). Likewise, patient safety climate was highly associated to nurses’ access to support (r=0.56; p=.0001) and formal power (r= 0.54; P0 .0001) and less related to opportunity to learn and grow (r= 0.22, P = .003.) The findings of the same study interpret that constructive and encouraging feedback, active
networks with workmates, and a platform for persistent learning are significant requirements for fostering a positive patient safety climate. (Armstrong & Laschinger 2006, 128 & Armstrong et al. 2009, 59.)

Aforementioned findings highlight the significance of empowerment in establishing environment that fosters professional nursing practice. It also emphasizes on the role of nursing leadership in generating work structures alike to Magnet work environments. The studies have found nursing foundation of care, manager capability, and nursing participation in hospital affairs to be highly related characteristics to patient safety and they were related to a lesser extent to adequacy of staff and collaborative nurse physician relationship. Based on the findings it can be interpreted that hospitals that provide nurses with strong empowering structures represent a good degree of Magnet hospital characters and the Magnet like structure can be procreated in any hospital organization settings. (Armstrong & Laschinger 2006, 128; Armstrong et al. 2009, 59.)

Studies have demonstrated that, the presence of both empowered environment and higher levels of Magnet hospital characteristics were highly correlated to higher perception of patient safety. The result showed the significance of the combined effect of these two factors: accessibility to information, resource, support, and working in an environment that promotes professional practice leads to perception of a positive patient safety culture. (Armstrong & Laschinger 2006, 128; Armstrong et al. 2009, 59.) Similarly, the majority of leaders (83%) validated that, access to the empowering structures and Magnet hospital attributes (i.e., power and opportunity) created an empowered and positive climate (Upenieks 2003, 89-96). Finding of the studies suggest that hospitals that empower nurses to perform in the best possible way are those that enhance circumstances for delivering safe patient care as well. The results also supported Kanter’s theory of organizational empowerment by relating to the quality of nurse work environment and the level of patient safety.

Furthermore, it brought the fact that patient safety is another major factor for hospital leadership to consider and to assure the desired outcome at present demanding healthcare settings, nurses must have adequate access to the organizational resources so that they perform in maximum level. (Armstrong et al. 2009, 59-61.) Assuring nurses on access to empowering work attributes, nursing leaders not only increase their institution’s capability to attract and retain nurses but also create a safe environment that enhance standard patient care. In a nutshell, it can be concluded that nurse leaders
can improve the extent of patient safety by generating an empowering professional practice environment for nurses. (Armstrong & Laschinger 2006, 127-130.)

6.5 Nurse leader’s role in nurses’ empowerment

The findings of the studies emphasize on the significant role of nurse leaders in creating an empowered work environment which is also a feature of Magnet like structure. A remarkable approach that nurse manager can demonstrate on empowering nurses is that they become persistently aware of nurses’ needs and concerns and they listen pro-actively. In addition, they are highly visible to nurses and exhibit continuous support. Likewise, they recognize and reward nurses’ efforts on achieving hospital’s strategical goals. Moreover, they discuss with nurses on different work and patient issues enabling them to participate in different functional committee such as work improvement and quality improvement committee.

It is essential for nurse manager to identify and provide improvement guidance, assuring that they understand the determining factors for work efficiency in providing quality care. Experiences of nurse leaders demonstrates that an impactful leadership is necessary for creating an integrated nurse team and for the organizational achievement. (Armstrong et al, 2009, 61.) Listening to nurses’ concern and viewpoints assist in leader’s ability to anticipate future problems and issues and then after plan proactively to meet the service standards. Evidently, being able to use data produced from various measurement tools and research results was one fundamental trait of a nurse leader in present cost minimizing health service settings. (Armstrong & Laschinger 2006, 128; Armstrong et al. 2009, 59; Upenieks 2003, 89.)

One principal structural foundation to enhance nurse leader’s efficiency is an organizational culture initiated from the executive team that fosters nurse manager leaders’ ability by understood the service and supportive to patient care. Similarly, empowerment had a greater impact in nurse manager’s role efficiency. Studies have found that nurse leaders who had accessibility to power and opportunity were more efficient in their leadership roles. The factors that determined the differences in leadership effectiveness in both Magnet and non-Magnet hospitals which influenced the differences in empowerment and job satisfaction of nurses were: 1. higher accessibility of Magnet nurse leader, 2. greater support by Magnet nurse manager leader in clinical nurses’ autonomous decision making and 3. higher accessibility to empowerment.
structures such as opportunity, information, and resources at Magnet hospitals. (Armstrong & Laschinger 2006, 128; Armstrong et al. 2009, 59; Upenieks 2003, 89.)

6.6 Healthy work environment and nurse job satisfaction

Several numbers of studies have shown evidences that Magnet hospitals comprise a healthy work environment. The healthy work environment in Magnet hospitals is due to the infrastructural components of Magnet hospital that flows from the nurse executive leadership to nurses at the unit with high power. Magnet hospitals acquire a work setting where nurses are highly representable, empowered and given the authority and power equally from administrative to the unit level. This significant work setting is achievable only by the essential attributes that forms the foundation for it. The attributes include clinical autonomy, nurse manager support, clinically competent peers and support for education and control over practice. (Schmalenberg and Kramer 2007, 463; Aiken et al. 2008, 3330-3331; Ridley et al. 2009, 34; Aiken et al. 2012, 281.) Magnet hospitals have good RN-MD relationships and they enjoy equal trust and power (Schmalenberg & Kramer 2007, 463). Likewise, collaborative relationship between co-workers is highly emphasized in Magnet hospitals and they support each other (Chen and Johantgen 2010, 1010). Due to the presence of these attributes in Magnet hospitals it creates a healthy work environment which ultimately results to higher job satisfaction (Chen and Johantgen 2010, 1010; Schmalenberg and Kramer 2007, 460).

Laschinger et al. (2001) identified that the nursing work environment characteristics such as autonomy, control, and collaboration were associated with trust to the management. Trust in management consists of involving employees in decision making and sharing crucial information, providing adequate resources and an environment where nurses can use their expertise and make autonomous decisions. Healthy work environment ensures nurses that they can make a positive impact and transform the workplace. Moreover, it turns nurses to be confident and capable of providing standard care. Furthermore, they decrease the burnout level due to enhancement in patient care predictability which eventually leads to nurse job satisfaction. (Laschinger et al. 2001, 215.)

Schmalenberg & Kramer (2007) state that in Magnet designated hospitals nurses are generally happy with their management as they are free to try new things in health settings with less or no hectic bureaucratic rules and interferences. Despite of few problems, 75.7% of nurses in Magnet hospitals are found to be generally happy in their
workforce (Ridley et al. 2009, 34). They are pleased with their immediate supervisor and the work environment as they can discuss professional matters. They are happy also because of the work environment attributes which facilitates for group cohesion, recognition and respect they receive for their work and all these elements add value to their work. (Schmalenberg & Kramer 2007, 463.)

In general, Magnet hospitals demonstrate the existence of healthy work environment and higher level of satisfaction, however the level of satisfaction among staffs may vary in the same Magnet hospital. A study by Chen & Johantgen (2010) demonstrates that job satisfaction in individual level is high when staff nurses perceive Magnet attributes to be better. Similarly, the better the hospital level attributes, the higher job satisfaction is perceived. Nursing leaders also perceive higher satisfaction when they are provided development opportunities. Efficiency on work planning and conflict resolution also have positive relation with job satisfaction. (Chen & Johantgen 2010, 1008.)

Likewise, job satisfaction is high when Magnet hospitals allocate responsibilities in such a way that nurses can decide on their own with their capability. In many situations nurses in Magnet hospitals like to complete their tasks on their own speed and timetable with autonomous practices, judgement and decision making. (Chen & Johantgen 2010, 1009.) The nurse assessed quality of care, as a major component of healthy work environment has a tremendous effect on nurse job satisfaction. Similarly, opportunities to learn new things by getting involved in the processes that leads toward quality patient care, results on higher level of job satisfaction. (Chen & Johantgen 2010, 1009; Buffington et al. 2012, 278.) This satisfaction leads them toward willingness to take an initiative of using their skills toward completing any task of patient care (Schmalenberg & Kramer 2007, 465; Chen & Johantgen 2010, 1008).

Differences in quality of nurse work environment between pre and post Magnet implementation in hospitals are observed minutely by NWI score. A study finds that after implementation of Magnet, nurse involvement in hospital decision making and opportunity to participate in policy decision changed from 47% (Pre-Magnet period) to 56%. (Aiken et al. 2008, 3333.) Similarly, when measured by NEXT data hospitals in Belgium and Germany, it predicted better job satisfaction in Magnet hospitals in comparison to other hospitals (Chen & Johantgen 2010, 1010). Hospitals had lesser healthy work environment before starting the Magnet process and nurses’ job satisfaction was lower. During the two year of trial period, when hospitals implemented Magnet designation, quality of nurse practice environment improved significantly. Likewise,
nurses realized higher level of job satisfaction with appraisals for the quality of patient care. Magnet implementation phase observed a tremendous decrease in intention to leave by nurses within a year by significant reduction to 27.5% from 38.9% between study period of 2000-2002. (Aiken et al. 2008, 3333-3335.)

Although payment is not the only factor for job satisfaction, many of the studies have shown that payment for the job has been ranked to be one of the most important elements on predicting job satisfaction with its three-fold contribution in employee’s life (Schmalenberg & Kramer 2007, 465; Chen & Johantgen 2010, 1010, & Buffington et al. 2012, 278). Nurses in Magnet hospitals rate their job satisfaction to be at the higher level where they are supported by fringe benefits and good salary (Schmalenberg & Kramer 2007, 465).

Similarly, level of work experience also has a very powerful relation with job satisfaction. The most experienced and the least experienced nurses are usually found to be satisfied with their job, whereas staffs in-between have different opinions toward health work environment and also demonstrate higher level of dissatisfaction. Likewise, nurses with higher patient cantered values are found to be more satisfied with their job in comparison to those who value less for patients care. (Schmalenberg & Kramer 2007, 460-465.)

Furthermore, lower death rates and high NWI-R score in the specialized unit revealed that attributes that foster nurse practice are present at high level in specialized units (Boyle 2004, 116). Nurses working in ICUs are found to be more satisfied than nurses working in other units (Schmalenberg & Kramer 2007, 460). Additionally, nurses on general medical surgical units informed less productive work environment due to poor staffing, RNMD relationships, and the quality of patient care. The units were often less well staffed and have more inexperienced nurses, and nurses should co-operate with wide group of physicians which made difficult to build a collaborative or collegial relationship. Nurses on these units rated both job satisfaction and quality of care lower than nurses on specialized units. (Kramer et al. 2014, 569-576.)

In the light of many studies (Kramer et al. 2004b, 45; Kutney-Lee et al. 2015, 552-556; Barnes et al. 2016, 102 & Upenieks 2003, 89-96) it can be generalized that patient and nurse outcome are better in Magnet hospitals in comparison to non-Magnet hospitals. However, despite of numbers of positive features, Magnet hospitals also lack some of the
important elements. In some of the cases, Magnet hospitals had lower access to equipment and support aids and they also demonstrated weak on remuneration. In some Magnet hospital nurses reported shortage of supplementary workers that would challenge them on providing quality care due to the lack of enough staff and support services. Additionally, it was reported that there were lack of responses from administration concerning to patient care. They also reported on lack of enough time in providing quality care to patient. Similarly, nurses reported that they lacked time to get engaged in the internal administration management issues. (Buffington et al. 2012, 276-280 & Upenieks 2003, 89-97.)

7 Discussion

Numerous researches have delivered evidences in the link between improved nurse work environment and positive patient and nurse job outcomes (Aiken et al. 2008, 3333-3335; Aiken et al. 2009, 5; Schmalenberg & Kramer 2007, 463; Salmond et al. 2009, 1120; Kutney-Lee et al. 2015, 552-556; Anderson et al. 2018, 4-17). Magnet process assists in going through a change process which comprise of improvements in the quality of the nurse work environment (Kutney-Lee et al. 2015, 552-556) as the designation brings crucial enhancement in nurse work environment attributes (Schmalenberg & Kramer 2007, 463).

Magnet designation process investigates and assists in nurses’ professional role in their practice environment by including autonomy, decision making, and organizational support. Magnet sum up an array of principles that can be implemented independent of Magnet authentication in order to foster workplaces as it supports for establishing an organizational culture that attracts and retain qualified nurses. (Anderson et al. 2018, 4-17.) Moreover, Magnet provokes a collective culture transformation (Anderson et al. 2018, 4-17). Petit Dit Dariel & Regnaux (2015) in a systematic study found that Magnet designation would eventually have a systemic influence on internal organizational systems with its effect on social, economic, and environmental domains. The positive results from several studies demonstrates that investment made in Magnet recognition and designation are worth for the hospitals (Salmond et al. 2009, 1120).

Pursuing Magnet demands a great amount of investment in time and resources. Since there are difficulties and limitations on process transformation, constructs and outcomes embedded with the values and concepts directly from the USA where this concept originally originated, it’s necessary that the advantages are explicitly defined, made assessable, and attainable in various geographic, political, and cultural contexts. Nursing
practices, education curriculums, nurse -patient ratio, health cost framework, patient acuteness etc., varies from one to another country. Upon implementing and evaluating Magnet accreditation within the local context, Magnet designation are predicted to bring promising positive results on improving work environment and patient and nurse related outcomes even outside the US region. (Anderson et al. 2018, 4-17.)

It is evident that due to healthy work environment, nurses in Magnet hospitals are found to be more oriented toward patient outcome. It has been stated that nurses are highly oriented in organizational culture that promotes patient oriented service. (Barnes et al. 2016, 103; Salmond et al. 2009, 1128; Kramer et al. 2004b, 45.) Adding to it, evidences from studies indicated that characteristics of Magnet hospital work environment play a vital role in nurses and patients outcomes by anticipating transformative management style (Chen & Johantgen 2010, 1008; Salmond et al. 2009, 1120; Aiken et al. 2008, 3336-3337). Thus, it can be assumed that through transformative management style organizational culture can be enhanced and Magnet hospital work environment can be replicated.

Similarly, Magnet hospital had remarkably higher level of nurse confidence on patients being able to care after discharged from hospital. This confidence level is a major marker for future readmission in the same hospital. Researchers have shown that nurses who work in good nurse environment report of confidence in patients’ capability to manage at home after hospital. Similarly, nurses were positive that management would response in solving the reported patient’s problems. It resembles that nurses’ raised concerns about patient were addressed properly and were given priority which ultimately had crucial impact on patient outcome. It has been shown that the care process for patients is influenced by how much nurses are heard, and whether their works are valued by physicians and nurse manager. (Kutney-Lee et al. 2015, 552-556.)

A large percentage of nurses in both Magnet (84%) and non-Magnet hospitals (82%) rated the quality of care provided in their units as equal or higher than their job satisfaction which is persistent with earlier findings. For nurses, being able to provide quality patient care was the most important and satisfying aspects of nursing. Thus, it can be understood that job retention and retention in nursing are more closely related to being able to provide quality care. In Some studies, it was found out that non-economic factors in the work environment such as service quality orientation was crucial and affected on creating job satisfaction and a positive practice environment. (Kramer et al. 2008, 554.)
Nurse leaders from both hospitals have reported lack of enough staff and support services such as supplementary assistant nurses. This fact was consistent with nurses’ experience, as nurses from both group informed staffing as one crucial concern in delivering quality care. Illustrating this scenario, a nurse asserted that it was not possible to take care of nine patients in the similar way that one would take care of four patients. In such contexts, nurses might be able to finish the basics, but they would not be able to perform a rewarding work. Neither they would meet the standard aspects of nursing care. Thus, staffing can be considered as one significant aspect to improve patient safety and to increase nurse retention. Nurse leaders from hospitals are found to shed light on the significance of staffing and resources for nurse retention in hospitals as vitally important, as they eventually lead toward several other organizational benefits such as cost expenses related to turnover and hospital expenses for increased duration of patient stay. (Upenieks 2003, 89-91.)

The findings of the studies challenged some controversial statement that Magnet hospitals would have already improved outcomes before applying for recognition. It may not be the fact as some studies have shown that in the initial phase throughout the outcomes assessed, Magnet hospitals were equivalent or lower in comparison to non-Magnet hospitals. Although, the PES-NWI score was slightly higher in the Magnet in the beginning, the differences were smaller. There was a considerable difference between theses both institutes by the end of the study. This defines that Magnet process conjures immense change within the organization regarding patient, nurses and organizational levels. It provides evidence that Magnet designation is an intervention that brings improvement in the nurse work environment which eventually leads to better nursing and patient outcomes. (Schmalenberg & Kramer 2007, 463; Kutney-Lee et al. 2015, 552-556, & Barnes et al. 2016, 103.)

Despite, Magnet hospital results usually showed better nurse outcomes, there were findings related to nurse well-being that needs to be addressed. Although Magnet hospital is renown for improved nurse work outcomes, study results have demonstrated some alarming situation in nurses’ well-being. This fact draws the attention that nurses in non-Magnet hospital might possibly suffer in high proportion from mental exhaustion and emotional problems. (Ridley et al. 2009, 34.) Creating healthy work environment in hospitals is a very challenging task as it is affected by several variables. Since females are predominantly in the nursing profession, it is even more challenging for them to balance personal and professional life. In a study it was found that Pressure Management Indicator and Maslach Burnout Inventory scale of nurses are generally good, yet 40.8% nurses are found to have emotional exhaustion. Additionally, a very small percentage
i.e., 0.8% have a feeling of personal accomplishment. Almost a quarter of the participants face cynicism occasionally. Similarly, 90% of staff nurses experienced some infrequent physical symptoms such as lack of energy which is reported by 52.5% of the respondents. Staff nurses also face some mental health related problems such as nervousness: 45.3% faced nervousness occasionally and 10.2% faced quite often. (Ridley et al. 2009, 34.)

Based on the findings, it can therefore be suggested that Magnet hospital leaders need to take better approaches for nurses’ well-being improvement. Magnet status has several remarkable benefits. However, some areas in Magnet designation require attention and action. Some studies highlighted on the necessity of imposing limitations to Magnet designation. Likewise, when Magnet hospitals are praised for their utilization of higher resources for better nursing and patient outcome, they are also criticized at the same time for higher service charges. Moreover, some of the studies exhibited contradicting results on improved outcome in mortality and length of stay in hospital. (Rettiganti, Shah, Gossett, Daily, Seib, & Gupta, 2018, 210-211.) For e.g., in some specialized unit, the outcome was better in non-Magnet hospitals in comparison to Magnet hospitals (Barnes et al. 2016, 103). In the same way, better results in Magnet hospitals were also considered to be outcome of lower patient to nurse ratios, more educated nurse workforce, more special certified nurses and better work environment rather than the actual outcome of Magnet status (Rettiganti et al. 2018, 211). Similarly, Friese et al. (2015) found that Magnet hospital outcome did not differ before and after the recognition, suggesting the possibility of other organizational factors assisting on the outcomes.

Job activities were found not to be in the highest level in Magnet hospitals (Ridley et al. 2009, 32) as anticipated. Likewise, occupation health outcome was also relatively lower (Salmond et al. 2009, 1136). Even though staffing was found to be better in Magnet hospitals in comparison to others, their staffing was not as good as one would expect. More attention needs to be paid on measuring the factors while assessing nurses’ perception on staffing adequacy as it increases when different variables such as autonomy, care-delivery system and cohesiveness of work groups are involved. (Kramer et al. 2004a, 47.) Further, some studies have stated that relationship between doctor and nurses in Magnet hospitals were not improved in a significant manner (Aiken et al. 2008, 3335). Similarly, some studies have demonstrated that chief nursing officers are found to be less visible and accessible and they also fail on assigning duties that would foster continuity of care (Ridley et al. 2009, 28).
Magnet hospital researches dominate for the correlation of autonomy to nurse retention. However, in one study nurses responded workmates and patient as the reason to stay rather than the features of Magnet hospital (Buffington et al. 2012, 279). Likewise, some studies also notified that nurses do not have flexibility, neither they are rewarded for their innovation resulting on relatively poor visibility of one’s work within organizational network. Accordingly, staffs had lower perception towards opportunities for development and the opportunities not being adequately distributed. Further, hospital administrations were found to be less eager towards staffs’ concern. (Ridley et al.2009, 31-33.)

7.1 Empowerment and professional work environment

Study on Magnet hospitals have resulted that empowerment fosters professional practice and assures an environment for patient safety. Managers can promote patient safety by creating empowering work environment that promotes professional nursing practice as illustrated by the Magnet hospital research. The quality of patient care is based on the nurses’ autonomy to use their expertise and knowledge in the clinical environment. If nurses are empowered to provide care according to the higher professional level, there is a potential that they feel their opinions matters regarding patient safety. (Armstrong & Laschinger 2006, 129-130; Armstrong et al. 2009, 60-61.)

Additionally, the whole empowerment was highly correlated to management ability and nursing participation among the Magnet hospital characteristics. The findings suggest that hospital leadership should provide adequate access to the organizational factors. More importantly, a non-hierarchical communication and a participative decision-making strategy plays an efficient role for fostering a safe patient environment. Supporting to this fact, participatory management strategy can foster communication between nurses and managers. For this reason, it is important to encourage all members of the team to be involved in decisions that influence in the course of their work and motivate them for continues improvisation while dealing promptly in patient’s matters. The results recommend nursing leadership to empower the unit’s nurses; providing support, praise and recognition of their work, discuss with them regarding problems, involving them in practice and operating committees. Furthermore, it can be understood that by flourishing empowering structures Magnet alike characteristics can be established in other settings too. (Armstrong & Laschinger 2006, 128-130; Armstrong et al. 2009; Upenieks 2003, 89.)
Nurse leaders from both Magnet and non-Magnet hospitals reported organizational structure such as autonomous climate, decentralized decision making, and shared governance playing a vital role in increasing nurses’ control over their work environment and becoming significant factors for a supportive professional practice. It was reported that these infrastructures promote professional and appreciative climate for nurses and also foster nurse leader efficiency. (Armstrong & Laschinger 2006, 128; Armstrong et al. 2009, 59, & Upenieks 2003, 97.) Organizational strategy that prioritize on improving access to opportunity, information, and resources holds the potency to empower staff and increases the level of job satisfaction. Access to opportunity can be achieved through clinical ladders, promotion in position, and providing extra responsibilities to nurses that challenge their innovation and productivity. These empowerment structures in the hospital will make a difference in creating a positive environment, in which nurses will be committed and would like to stay. (Upenieks 2003, 97.)

7.2 Implications for nurse manager in patient safety

It was interpreted from the findings that hospitals that empower nurses to perform in the best possible way are those that foster circumstances for delivering safe patient care. The result provided evidence that nurse leaders can improve the extent of patient safety by facilitating nurses access to empowering structures. A nurse manager can contribute in patient safety by assisting nurses to discover quality improvement approaches and increase their co-operation with administrations and work team. By doing so they can foster improvement in the organizational processes which are limiting nurses’ capability in providing optimum care. Additionally, by encouraging error management programs, fostering communication and co-operation in the team and initiating team reflection nurse manager can assists in improving patient safety environment. (Armstrong & Laschinger 2006, 130; Armstrong et al. 2009, 60-61.)

Another crucial approach for a nurse manager is to assure the accessibility and mobilization of resources. This assurance by nurses at the time of prompt patient care ensures safe and satisfied patient outcome (Armstrong & Laschinger 2006, 125). Kanter (1977) affirmed power as the ability to mobilize resources. By being proactive on patient safety issues, nurse managers can voice the needs of staff nurses in the hospital executive level by actively searching for place in senior leadership activities. These actions facilitate to empower staff nurses, and to improvise patient safety which represent a vital character of Magnet hospital work environment. (Armstrong & Laschinger 2006, 130.)
Despite, the role of nurse manager in Magnet hospital is supposed to be more visible, a study uncovered that nurses in Magnet hospital reported a lower access to formal structures i.e., lacking opportunity and information (Upenieks 2003, 96). Therefore, it can be recommended that nurse managers build organizational changes that recognize and reward nurses for their innovation and creativity, foster organizational visibility of nurses act, and promote work strategy that increase nurses job flexibility. Nurse managers should pursue intensively to establish or improve Magnet hospital characteristics in their work environment. With certain nurse leader’s operations nurse manager can strengthen Magnet hospital characteristics, by increasing nurses’ impact in organizational decision making, assuring enough workers, and enhancing relationship within the team members. (Armstrong & Laschinger 2006, 130; Armstrong et al. 2009, 60-61; Upenieks 2003, 89.)

7.3 Summary from results and discussion

This integrative review was conducted to explore the characteristics of Magnet hospital work environment and its impact on patient and nurse outcome. This study included 24 studies that used various designs (Appendix 1). The attributes of Magnetic work environment and their effects in nurse and patient outcome in comparison to non-Magnet hospitals were reviewed. Eight essentials of Magnetism were identified as a key characteristic of healthy work environment in Magnet hospitals. Other than the eight essentials of Magnetism, attributes like better nurse patient ratio, resource adequacy, highly educated and certified nurse came into forefront as necessary characteristics for healthy work environment in hospitals. Magnet model encapsulates a range of principles that can be implemented in other settings independent of Magnet designation. The results of the studies show that Magnet hospitals have better nurse and patient outcomes. In nurse outcomes: nurse retention, reduced workload, reduced burnout and higher level of nurse job satisfaction were identified. In patient outcomes low mortality rate, low infection rate, decrease length of stay in hospital and quality patient care were identified.

Magnet designation improves nurse job related outcomes and patient outcomes which occurs in the process of preparing for Magnet designation and after achieving the Magnet designation. Magnet model is an intervention that transforms the hospital culture through nurses’ perspectives. Magnet hospital fosters nurse’s professional roles by promoting nurse professional work environment, which makes it able to attract and retain nurses.
Similarly, Magnet hospital nurses are highly empowered. Also, the study resulted that the power, authority and resources provided by an institution determine nurses’ capacity in providing high quality care and preventing errors that risk for patient safety. An empowered work environment enables nurses to deliver the optimum patient care. Magnet hospital demonstrates a high level of improvement in nurse work environment through highly visible positive work environment characteristics such as nurse autonomy, control over practice, nurse leader’s support, adequacy in staffing, support for education, and nurse-collegial and physician relationship.

The authors found that shared governance, transformational leadership, nursing leadership, and structural empowerment were highly representative structures of the Magnet model that enabled the essential of Magnetism to incorporate in nurse work environment leading to improved work environment. It is the combination of these vital structures and essentials of Magnetism that contributes to nurse job satisfaction, productive patient care, enhanced patient safety and overall organizational efficiency.

Fundamentals of a Magnet culture is centred on the work environment elements, which influence in Magnet culture sustainability. Therefore, organizational changes such as changes by nurse manager, physician turnover, and lack of nursing staffs affect the Magnet sustainability. Nursing leadership and CNO decisions should always be assessed promptly considering the implications they have in Magnet culture. Hence, the sustainability of Magnetic work environment demands persistent investment and commitment under the premises that transformation of a work environment is a continues process rather than just an episode.

Another major finding of the research is that the work environment which facilitates in improving quality of care is the one which impacts on nurse retention and satisfaction. Supporting to this fact, some researches have revealed that nurses reported intention to stay because of being able to provide high quality care to patient. When nurses can provide quality patient care at work, they are more satisfied and willing to stay. By increasing nurses’ access to empowering structures; information, resource, power, support, nurse’s participation in decision making committee, addressing nursing concern regarding patient care and staffing issues and giving them crucial role and opportunities that challenge their creativity, Magnet hospital traits can be procreated in other settings as well. One crucial finding that has an important implication for healthcare organizations is that Magnet hospital characteristics can be procreated in any healthcare settings.
There were also few studies which identified many gaps in current evidences on positive findings. Despite of many supportive evidences on Magnet hospital outcomes, few studies stated that more research is necessary to establish the link between Magnet status and its outcome (Petit Dit Dariel & Regnaux 2015, 2000; Barnes et al. 2016, 103, & Friese et al. 2015, 989). Magnet hospitals demonstrated better outcome in most of the findings but some of the studies still demonstrated that the outcome is somehow similar or no better than non-Magnet hospitals. Based on these contradictory findings, it is important to examine whether better outcomes are result of a Magnet process or they already existed before recognition. (Barnes et al. 2016, 103; Friese et al. 2015, 987-989.) The actual outcomes can’t be neglected and improvement on some aspects of Magnet status promises better results (Ridley et al. 2009, 34). Thus, studying Magnet hospital in details is one crucial approach for exploring how provision of nursing care influence the outcomes (Friese et al. 2015, 987-989). Despite of some contradictory findings, it can be concluded that Magnet hospital work environment is associated with improved patient and nurse outcome.

7.4 Implications for practice and future research

The results of this study have significant implications for nurse leaders and healthcare leaders regarding the importance of nurse work environment in patient, nurse, and organizational outcome. The findings show the evidence that Magnet hospital attributes enhance nurses’ professional roles. Therefore, pursuing Magnet designation can be a solution approach in context of today’s healthcare organization, which faces various problems that are hindering in nurse job satisfaction and quality of performance as well as in obtaining better patient outcomes. The result highlighted the significance of empowering structures in work environment for delivering high quality patient care. Thus, health care leaders and nurse managers can be suggested to enhance nurse access to empowering structures as one approach in improving quality patient outcome. Likewise, the review delivered evidence that independent of the Magnet designation, healthcare leaders and managers can create Magnet hospital characteristics by increasing nurses’ access to empowering structures. By increasing nurses’ access to empowerment structures nurses can gain high autonomy, support, and resources, which overall enhance nurses’ professional role. Achieving high nurses’ professional roles replicates Magnet hospital character in the work settings.

Similarly, it provides evidence based theoretical background to the nurses of HUS and assists in Magnet application process and flourish Magnet culture in the work environment. HUS is the first hospital organization from Finland that is in the process of
applying for Magnet designation. Additionally, it can facilitate other organizations that are willing to apply for Magnet designation. Furthermore, this ILR can be a source material for the future researchers who are willing to explore on Magnet hospital characteristics and its impact on nurse and patient outcomes.

7.5 Limitations

No matter how good a study is, there is always limitations (Simon & Goes 2013). Although both researchers have critically appraised publications by applying the standard checklist, there are possibilities of some lapses, which are due to the level of experience of researchers, since researchers lack experiences in evaluation of publications with checklist tools. Similarly, researchers might have their own different interpretation while appraising the studies. Despite of researchers’ attempt to evaluate the articles in the best possible way, some empirical studies reported in this review also had some limitations. For instance, some of the empirical studies were conducted in a small population resulting the authors to make necessary attempts before generalizing the findings in other settings.

While comparing Magnet and non-Magnet hospital in some studies, the Magnet hospitals were academic teaching hospital whilst, non-Magnet hospitals were community hospital. Since the infrastructures in an academic teaching hospital are better than in community hospital, it was assumed that the difference in score was partially related to their differences of community vs academic hospital. Data extraction in some of the studies were challenging because of poor reporting. Final findings may have been affected because of the ways data were interpreted in the studies. This study may have some limitation in inclusiveness as well due to the search criteria which is based on the years and language of publication. Articles published only in English language between 2000-2018 were selected for the study. The obligation of selecting the literatures by the inclusion and exclusion criteria also might have resulted on biasness. This study implies integrative review design; thus, it may have some inaccuracy and biasness as Whittemore (2005) stated that the combination and complexity in incorporating diverse methodologies might lead to biasness.

This review included fewer numbers of studies that compared Magnet and non-Magnet hospital. Likewise, some studies selected for the review process were conducted only in non-Magnet hospitals, thus the authors are not able to claim that Magnet hospital
produce better results in comparison to non-Magnet hospital. However, from the results it can be asserted that Magnet hospital produce better outcomes in general, it can be considered as one of the limitations of this study. Inclusion of only studies which compared between Magnet and non-Magnet could have produced more rigor result on whether Magnet hospital outperform non-Magnet hospital or not.

As a master’s thesis this review has its own limitations to evaluate the efficiency of Magnet model through empirical outcomes as well. Being students, the authors have time limitations, lack of access to necessary fund and resources, and organizational co-operation, which are needed for a large empirical study. Although, the researchers have been able to theoretically evaluate the Magnet hospital outcome, it is beyond the resources of authors to evaluate Magnet hospital outcome empirically.

7.6 Ethical consideration

Due to the nature of the study (ILR), the authors didn’t require formal consent from the authors as it would be required in empirical researches. Nonetheless, an ethical consideration while taking literature review is that the thesis must be carried out and presented in a transparent way and the data extraction should be done on unbiased and rigorous approach (Hopla et al. 2016, 668). In addition, the conflict of interest and funding source should be stated, unnecessary repetitious studies should be averted as well as the thesis should not consists plagiarized information. The authors have made the best possible effort for minimizing bias and enhancing transparency while conducting this thesis by two specific approaches. The first approach is by following the strict excluding and including rules and implying crucial steps of integrated review as they are essentials in integrated review for transparency and to reduce the possibility of biasness. All our processes are presented clearly in the methodology section of this thesis. The second one is an optimum approach to counter the chances of bias by documenting the search process, as it is extremely important in a review.

The authors have tried to extract, present and interpret the findings as much as near to the original studies and documented clearly from search strategy to data analysis process by respecting analytical honesty. Likewise, the data analysis process is made transparent with explanations. Similarly, another major rule for counteracting the chance of bias is assessing the quality of the included studies by independent reviewers (Whittemore 2005, 50- 61; Whittemore & Knafl 2005, 552). In this thesis all the retrieved studies were
assessed individually at first and then combinedly together. The authors believe that the quality saturation of this thesis has been maintained by through discussions, and logics are discussed with each other to reach the consensus.

For the assurance of including updated, inclusive and broad evidences to our research problem, a defined search process was carried out with the help of University Librarian and the Helsinki University librarian. Following the assistance from libraries, both authors practiced the search process together in different databases and decided for the search term. No previous experience has derived our thesis in anyway. The authors have avoided usage of plagiarized material and have tried to write the findings on their own words. Since, the thesis is not sponsored by any institution or individual, the authors do not have conflict of interest. However, this study is conducted for a complete academic purpose, it aims to assist Helsinki University Hospital as standard guidelines in their preparation for the Magnet accreditation.

7.7 Author’s acknowledgement and the thesis process

There has been a mutual working process between the authors while producing this review. While one of the authors was more responsible for the research findings on Magnet hospital and Magnet model components in the theoretical part, another author was responsible for the introductory part and construction of the theoretical framework. The data search process, retrieving, and quality assessment have been completed together. The final retrieved studies were divided and analyzed individually; where each other’s interpretations were reviewed and decided to be kept in the report by mutual reasoning. In the analysis phase, each other’s insights were asked for, when there were unclear issues, so better understanding and interpretation could be grasped. The thesis is completed as part of the authors’ Master’s study.
8 Conclusion

The results provide evidence that Magnet hospitals have better professional practice environment, nurses’ and patients’ outcomes. Magnet process assists in going through a change process which brings improvements in the quality of nurse work environment. It transforms hospital work environment from nurses’ perspectives and enhances nurses’ professional roles. The authors found that the special structures and the EOM forms the fundamental characteristics of Magnet hospital work environment that result to better nurses’ and patients’ outcomes. The results informed that Magnet hospital characteristics can be procreated in any other healthcare settings independent of Magnet designation through the implementation of these features and structural empowerment.

Magnet hospital nurses have better career opportunities and they exercise healthy work environment elements in high proportion in their professional practice. Nurse leaders in Magnet hospitals are highly empowered which enables them to support and empower nurses optimally. Thus, the result highlights the role of nurse manager in empowering nurses. Likewise, the study provides evidence that positive professional work environment leads to safe patient care and nurse job outcomes. It is in this environment where nurses are attracted and would like to stay. The purpose of this ILR to explore the attributes of Magnet hospital work environment and its impact on nurses’ and patients’ outcomes have been explored. The ILR has succeeded in providing evidence that nurse work environment has a high impact in patients’ and nurses’ outcomes thus supports the need to improve nurse work environment.
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### Appendix 1: Summary table of included studies

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<tr>
<th>S. No</th>
<th>Title/Author /Year/Place</th>
<th>Research areas and focused areas</th>
<th>Research design and Sample / Instrument</th>
<th>Key findings and conclusions:</th>
<th>Rating of evidence</th>
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<tbody>
<tr>
<td>1</td>
<td>Essentials of a Magnetic work environment: Part 1 Kramer and Schmalenberg, 2004a Philadelphia, USA</td>
<td>The specific aim of the paper is to check the role of three essentials of Magnetism in work environment: support for education, clinical competence of peers, and positive RN/MD relationships. The overall aim of the entire series of the study is to discuss the perception of staff nurses on Magnet hospital work environment and also to evaluate the differences between Magnet, Magnet aspiring and other hospitals.</td>
<td>The study is descriptive / qualitative in nature. To increase the sample in Magnet hospitals and also to maintain the proportional equality the Magnet hospitals surveys were mailed to 2000 hospital nurses with an access to online surveys as well. The study consisted of 3602 staff nurses from 16 Magnet, 8 Magnet aspiring and 6 other hospitals. While selecting Magnet aspiring hospitals it was ensured that they have appointed Magnet program coordinator. The EOM tool was used to analyse the outcome.</td>
<td>Magnet hospital scored the highest on three EOM: support for education, clinical competence of peers and positive RN/MD relationships in comparison to Magnet aspiring and other hospitals. Collegial RN/MD relationship plays important role on improved patient care. Education and clinical competences are key approaches to gain such relationship which ultimately lead toward better patient care; an essential goal of Magnetic work environment.</td>
<td>16/20 80%</td>
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<tr>
<td>2</td>
<td>Essentials of a Magnetic work environment: Part 2 Kramer and Schmalenberg, 2004b</td>
<td>To examine autonomy and control over nursing practice as two essentials of Magnetism.</td>
<td>The study is descriptive / qualitative in nature. To increase the sample in Magnet hospitals and also to</td>
<td>Magnet hospital scored higher than Magnet aspiring and other hospitals in autonomy and control over nursing practice.</td>
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<td>Philadelphia, USA</td>
<td>maintain the proportional equality the Magnet hospitals surveys were mailed to 2000 hospital nurses with an access to online surveys as well. The study consisted of 3602 staff nurses from 16 Magnet, 8 Magnet aspiring and 6 other hospitals. While selecting Magnet aspiring hospitals it was ensured that they have appointed Magnet program coordinator. The EOM tool was used to analyze the outcome.</td>
<td>Autonomy as one of the most important determinants to job satisfaction and retention favors for strong productivity in quality care. It also points the direction for the nurses to enhance work environment by implementing EOM.</td>
<td>80%</td>
<td></td>
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<td>Essentials of a Magnetic work environment: Part 3 Kramer et al., 2004a Philadelphia, USA</td>
<td>It aims to examine nurse-manager support and adequacy of staffing as essentials of Magnetism. The study is descriptive / qualitative in nature. To increase the sample in Magnet hospitals and also to maintain the proportional equality the Magnet hospitals surveys were mailed to 2000 hospital nurses with an access to online surveys as well. The study consisted of 3602 staff nurses from 16 Magnet, 8 Magnet aspiring and 6 other hospitals. While selecting Magnet aspiring hospitals it was ensured that they have appointed Magnet program coordinator.</td>
<td>However, the Magnet hospitals do not meet the expectations of others, they still have better staffing in comparison to Magnet aspiring and others. Staff’s perception of acceptability is influenced by various factors such as autonomy, care delivery system and cohesiveness of work groups, thus more attention need to be paid while measuring these factors. To provide the work environment toward highest quality of patient care, intelligent and courageous nurse leadership is essential. Nurse managers in the leadership positions are capable of assessing staffs’ perception of peer support as well as staff adequacy. They also can play vital role on initiating dialogue between staffs and lead toward the formulation and implementation of changes.</td>
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<td></td>
<td>Essentials of a Magnetic work environment: Part 4</td>
<td>To explore organizational culture and to evaluate if the essential concern over patient is at paramount level at the Magnet hospitals.</td>
<td>The EOM tool was used to analyze the outcome.</td>
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<td></td>
<td>Kramer et al., 2004b Philadelphia, USA</td>
<td>The study is descriptive / qualitative in nature. To increase the sample in Magnet hospitals and also to maintain the proportional equality. The Magnet hospitals surveys were mailed to 2000 hospital nurses with an access to online surveys as well. The study consisted of 3602 staff nurses from 16 Magnet, 8 Magnet aspiring and 6 other hospitals. While selecting Magnet aspiring hospitals it was ensured that they have appointed Magnet program coordinator. The EOM tool was used to analyze the outcome.</td>
<td>The specific finding of this paper is that development of a work culture where EOM values are enabled results on work satisfaction and focuses on quality patient care as the core value. The overall finding of the paper including all parts is that EOM proves to be a valid and reliable indicator. The study also finds that Magnet hospitals score high in all EOM, then in compared Magnet aspiring and other hospitals. Recommendations: - The EOM tool can be useful to those hospitals who want to initiate self-evaluation on possession of EOM and to change. The results can be used by the staff nurses on defining their own and unit's parameters of EOM. These parameters can be used to initiate discussion with their colleagues and management so that realistic expectations and conditions are built which are crucial in-patient care.</td>
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<td>4</td>
<td>Magnet hospital attributes in European hospitals: A multilevel model of job satisfaction</td>
<td>To examine the existence of Magnet hospital attributes in hospitals of two European Countries. It also aims to examine the relationship of job satisfaction to the Magnet hospital attributes in the individual and organizational level by using six Magnet forces.</td>
<td>This study used a secondary data analysis method with cross-sectional design. The survey invitation was sent to 2303 registered nurses (RNs) from Belgium and 2646 RNs from Germany. This study excluded Non-RN providers, RNs with administrative positions,</td>
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<td>Chen and Johantgen, 2010 Oxford, UK</td>
<td>The study found that hospitals in two European countries had Magnet hospital attributes, and they were positively associated with job satisfaction.</td>
<td>The study found that hospitals in two European countries had Magnet hospital attributes, and they were positively associated with job satisfaction. Magnet hospital attributes performed well in predicting job satisfaction using the European NEXT study data from Belgium and Germany. Some attributes are found to be more essential for achieving individual level satisfaction of staff nurses, whereas some are essential to achieve job satisfaction at the hospital level.</td>
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<td>Transformative impact of Magnet designation: England Case study</td>
<td>The objective of the study is to test the impact of the implementation of Magnet principles on improving nurses’ work environments. This study wanted to determine whether Magnet designation were associated with improved nursing outcome and quality of patient care. The study compared work environment during the Magnet designation preparation time to prior Magnet designation period (2000-2002). The study also aims to examine the compatibility and feasibility of ANCC Magnet.</td>
<td>The study used cross sectional survey. The study covered all full-time nurses (NHS clinical grades D-F) working in medical or surgical patients’ units of Rochdale Hospital. The participants were asked to complete a self-administered survey with a two-points -of -time, where July/August 2000 (n=128) is the time period before the Magnet standard implementations and September/October 2002 (n = 109), is the time period after the Magnet standard implementations.</td>
<td>Following a two-year trial period of evidence-based Magnet standards implementation and Magnet designation, the study concludes that it resulted on improvement of nurse work environment and overall nurse outcome in comparison to Magnet aspiring and other hospitals. It also resulted on improved job satisfaction and improvement in health care quality. Similarly nurses experienced better work appraisals and improvement in nurse practice environment without any enhancement in staffing, which proves that Magnet principles can be implemented to achieve better work environment.</td>
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<td>Aiken et al., 2008 Oxford, UK</td>
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Pay and support plays a critical role while supportive management style and collaborative relationship between co-workers and physicians, professional development, quality of leadership and autonomy are also deemed to be important. All six Magnet forces significantly predicted job satisfaction at the nurse level with personnel policies having the strongest effect(b=0.96). At the hospital level, management style had the strongest effect(b=0.84) in predicting job satisfaction, followed by professional development, interdisciplinary relationship, and autonomy. Recommendation: - Further multilevel research should explore these attributes particularly at the nursing unit-level where work environment is experienced.

Recommendation: - The blueprint developed to guide Magnet application can be used by nurses anywhere to improve the quality of their work environments.
| 7   | Is Magnet recognition associated with improved outcomes among critically ill children treated at freestanding children’s hospitals? | The aim of the study is to examine the relationship between patient outcome and Magnet recognition in pediatric critical care unit. | The study is observational and consisted post hoc analysis of data from an existing administrative national database. The study included a total of 823,634 paediatric patients admitted in a paediatric intensive care unit between 2004 - 2015 at 41 PHIS centres. The age limit of the patients was 18 or lower. The study population was divided in two groups: The first group included 454,616 (55.2%) patients treated in 23 Magnet recognized hospitals and the second group consisted of patients treated in hospitals who were not Magnet recognized. | There were no significant variations between two study group in terms of baseline characteristics, neither Magnet hospitals had survival advantage. The result does not demonstrate any definite relation between Magnet recognition and patient care. The study lays foundation for future studies by linking clinical and administrative database, outcome, despite the fact that Magnet hospitals utilize higher resources. The study also finds that Magnet hospitals had bigger service charges. | 37/44 84% |
| 8   | Nurse Outcomes in Magnet and Non-Magnet hospitals | The study aims to determine if work environment, staffing, and nurse outcomes differ between Magnet and non-Magnet hospitals. It also aims | This study used secondary analysis of data with cross-sectional study method. The study selected 576 hospitals from 4 different | Nurses have superior work environment in Magnet hospitals in comparison to non-Magnet hospitals and this environment is associated with higher level of job satisfaction and retention and lower level of burnout and intent to leave. | 42/44 95% |
to compare nurses educational qualifications and work environment of nurses between these two settings. It also intends to evaluate the satisfaction, burnout and intent to leave of nurses.

states (California, Florida, Pennsylvania and New Jersey) of USA. With 45 nurses on average from each hospital 4562 nurses from Magnet hospitals and 21,714 nurses from non-Magnet hospitals were surveyed by mail at their home. 46 of the selected hospitals were ANCC Magnet recognized.

The survey received 86% of responses that excluded small hospitals.

The study used Practice Environment scale of the nursing workforce index by using 31 items to measure the work environment.

Emotional subscale of the Maslach Burnout Inventory Human Service Survey (MBI-HSS) was used to measure job related burnout.

Magnet hospitals had significantly better work environments ($t = -5.29$, $P < .001$) and more highly educated nurses ($t = -2.27$, $P < .001$). Magnet hospital nurses were 18% less likely to be dissatisfied with their job ($P < .05$) and 13% less likely to report high burnout ($P < .05$).

A comprehensive systematic review of evidence on determining the impact of Magnet designation on nursing and patient outcomes. Is the investment worth it?

Salmond et al., 2009

USA

The objective of this study is to examine the existing evidence on impact of Magnet designation on organizational outcome, nursing outcomes and patient outcomes by having the economic investment in Magnet hospitals at core.

The study used Systematic review method.

The review included nurses working in four different types of hospital: ANCC Magnet hospital, Reputational Magnet hospital, Magnet-Aspiring Hospital, and non-Magnet hospitals.

Magnet hospitals have a significantly stronger professional nursing practice environment in comparison to non-Magnet hospitals, Reputational Magnet hospitals, Magnet-Aspiring Hospitals and other hospitals.

From the existing evidence the study finds that Magnet designation has positive effects on organizational outcome and nurse outcome due to the professional nurse practice environment. Nurses in Magnet hospitals perceive themselves to be more autonomous, resourced adequately with better staffing and they also perceive high for their nurse manager's capability. Nurses in Magnet hospitals
Instrument: Hospital Quality Alliance Composite Score (HQACS)

experience higher level of job satisfaction and lower burnout with higher perceptions of quality care and decreasing intent to leave the work place.

However, the study does not find sufficient evidence on determining if Magnet nurses have clear standards for patient centred care.

The study concludes that further investigation is required to identify the linkage between PNPE and Magnet designation with patient outcome, as limited studies were found related to patient outcomes. No studies met criteria of inclusion for economic review.

Recommendations:

Nursing leadership and management should use evidence-based interventions to improve PNPE.

To improve PNPE nursing leadership and management are suggested to use evidence-based interventions by using approaches such as: promotion of nurse and physician collaboration, development of nurse autonomy, implementation of shared governance models and ongoing development of nursing managers. Furthermore, they are also recommended to develop process for measurement of nursing satisfaction and patient outcomes, which can later be used for strategy development and implementation. ANCC Magnet and the NDNQI database can provide information and benchmarking opportunities for innovation.

The financial implication of the development of PNPE and the potential return on investment are needed to be evaluated by nursing leaders, even though PNPE has proven to have positive impact on nursing administration.

| 10 | Types of intensive care units with the healthiest most productive work environments | The objective of this study is to identify the perceptions toward work environment by study samples from | The study used cross-sectional descriptive analysis method to study samples from | The study concludes that nurses in all ICUs report healthy and productive work environment similarly. NICUs | 40/44 |
| Schmalenberg and Kramer, 2007 USA | different intensive care unit staff nurses. It aims to identify if they perceive healthy work environment differently and in what extend they agree to be in healthy work environment. strategically collected secondary data. The study sample consisted of 2990 staff nurses from 206 clinical units in 8 Magnet hospitals. The ICU subsample consisted 698 staff nurses from 34 ICUs that were grouped into 4 different types: 1) medical and coronary care units labelled as MICU; (2) surgical, cardiovascular, and trauma units labelled as SICU; (3) neonatal and paediatric units labelled as NICU; and (4) mixed medical-surgical critical care units labelled as MSICU. The study used EOM to measure healthy work environment. reported even better in terms of healthy work environment. The ICU nurses and units scored above the National Magnet hospital Profile mean on process and essentials of Magnet outcome. Neonatal and paediatric units scored significantly higher than other types of intensive care units. | 91% |

| Magnet hospital Recognition Linked to Lower Central Line-Associated Bloodstream Infection Rates Barnes et al., 2016 New York, USA | This study aims to identify the relationship between hospital central line associated bloodstream infections (CLABSI) rates and Magnet status. This study conducted secondary analysis of cross-sectional hospital data collected from 3 national sources. The first data source was Medicare’s 2013 Hospital compare database of HAIs. The second data source was 2013 American Hospital Association annual survey that used common hospital identifiers. The third source was ANCC Magnet recognition program. (ANCC, 2015a) This study establishes a relationship between Magnet status and better outcome in CLABSI rates in a hospital central line, however additional research is required to determine if Magnet recognition is the main cause for better results. The study found the existence of a link between Magnet status and CLABSI rates. Magnet hospital status was associated with better (lower than the national average) CLABSI rates before and after matching. | 41/44 93% |
| Work environment, health outcomes and Magnet hospital traits in the Canadian nephrology nursing scene | This study aims to examine if Magnet hospital traits, organizational support, and empowerment contributed to nurses of Canadian nephrology' job satisfaction, perceived quality of patient care and health outcomes. | Descriptive study  
This study selected 300 nurses who were members of the Canadian Association of Nephrology Nurses and Technologists (CANNT) by a computer-generated random sample selection process. The samples were asked to complete a survey. The sample consisted only those who consented to be on mailing list. The surveys were distributed in March 2007 and the second follow up was conducted in June 2007.  
This study used Nursing Work Index (NWI-PES), Conditions of Work Effectiveness Questionnaire II (CWEQ-II), the Pressure Management Indicator and Maslach Burnout Inventory. | Results revealed that some elements such as empowerment of the nursing environment of Canadian nephrology were rated very favorably. They were found to be with high standards of care and good working relationships with peers. Nurses in Nephrology agreed that administration’s expectation of high standard care, good relationship between competent nurses and physicians, and the opportunities to serve in committees were determining factors in making the work environment healthy leading toward job satisfactions, health outcomes and better patient care.  
However, some areas still required improvement.  
The lack of written up to date plans, failure of administration to listen and respond to employees’ concern were reported to be weaknesses. They also felt that chief nursing officers were less visible and accessible, and they failed to assign duties that would foster continuity of care.  
The results of the Pressure Management Indicator and Maslach Burnout Inventory indicated that nephrology nurses were generally coping well, while some of them were struggling. To promote the recruitment and |
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<th>13</th>
<th>Structural Empowerment, Magnet hospital Characteristics, and Patient Safety Culture Making the Link Armstrong &amp; Laschinger 2006, Canada</th>
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<td>Indicator, and the Maslach Burnout Inventory (MBI).</td>
<td>retention of nephrology nurses, strategies to improve work environments were deemed necessary. Recommendations: Researchers recommend a study exploring quality of work-life on a national level. They suggest including all the nurses including those who may not be member of professional associations. Researchers deem more research in this area necessary as newer strategies based on evidence are required to reform the nursing shortage and also to provide adequate patient care.</td>
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-Kanter’s theory of structural empowerment was tested making correlation among empowering work culture, Magnet hospital characteristics, and patient safety. The study aimed to explore how organizational structures interplay for establishing a patient safety culture by enabling nurses to deliver maximum level of care possible. Tested hypothesis: Higher staff nurse workplace empowerment is linked to higher ratings of levels of Magnet hospital characteristics in the work settings.

Exploratory study using a predictive non experimental design. 79 survey were sent, 40 surveys were returned (response rate of 51%). N=34 Instrument used: the conditions of work effectiveness questionnaire-II (CWEQ-II), with 6 subscales, which measures six components of structural empowerment; nurses’ perception of access to opportunity, information, support, resources, formal and informal power. It consists of 19 items. Also, two item global empowerment scale was added to the instrument. The Magnet hospital characteristics were assessed

Empowerment structures; access to support, informal power, and opportunity to learn was highly correlated to all Magnet hospital characteristics. Workplace empowerment was also highly associated to perceptions of patients’ safety culture. Nurses who have access to empowerment structures represent strong level of Magnet hospital characteristics that fosters professional nursing practice. The overall empowerment was highly linked to the nursing model of care of Magnet work environment with higher score in good nursing leadership. The significance of strong nursing leadership in creating Magnet-similar work environments was emphasized.

It provides evidence that nurse leaders can improve the extent of patient safety by generating an empowering professional practice environment for nurses. 35/44 80%
|   | Workplace Empowerment and Magnet hospital Characteristics as Predictors of Patient Safety Climate
Armstrong et al., 2009 Ontario, Canada | Tested Kanter’s theory of workplace empowerment. The study aimed to investigate the relationship among nurses’ perception of empowerments, Magnet hospital characteristics, and patient safety.
Hypothesis:
1. Higher levels of access to workplace empowerment structures is linked to higher levels of Magnet hospital characteristics in the work settings.
2. Higher levels of access to workplace empowerment structures is linked to higher levels of patient safety.
3. Higher levels of Magnet hospital characters is linked by PES-NWI scale. The scale has five elements of Magnet hospital environment; nursing foundations for quality care, nurse manager ability, leadership, and support of nurses; staffing and resource adequacy; and the level of collegial nurse/physician relationships. The third instrument was safety climate survey including of 20 items. | A correlational study design was applied. A random sample of registered nurses (RNs) was selected from the registry of the college of Nurses of Ontario of active staff nurses employed in acute care hospitals in Ontario. A sample size of 300 were sent, 162 were received (N=153) Instruments used: The CWEQ-II with the 2 added global empowerment scale for measuring access to empowerment structures. The PES-NWI was used to assess Magnet hospital characteristics. Safety climate scale of the safety climate survey instrument was used to | Empowerment was positively related to perceptions of patient safety climate among which nurses’ access to support and formal power was the most strongly related. Magnet hospital characteristics most strongly related to patient safety were nursing foundation of care, manager ability, and nursing participation in hospital affairs. Overall empowerment was positively related to Magnet hospital characteristics. Among the empowerment structures, support and resources had high and opportunity and information had low correlation with the Magnet hospital characteristics. Recommendations: By assuring staff nurses’ access to support and resources managers can enhance Magnet hospital characteristics on their unit. Nursing leadership roles to empower unit’s nurses are; providing support, praise and recognition of their work, discuss with them regarding problems, involving them in practice and operating committees. | 36/44 82% |
The Interrelationship of Organizational Characteristics of Magnet Hospitals, Nursing Leadership, and Nursing Job Satisfaction. 
Upenieks, 2003
USA

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| 15   | To examine whether Magnet hospitals are able to provide higher levels of job satisfaction and empowerment among nurses comparing to non-Magnet hospitals. Also, examined at both types of hospital whether the difference in level of job satisfaction was interlinked with leadership effectiveness and support of professional practice. For the quantitative portion of the study sample was taken from two Magnet hospital and two non-Magnet hospitals. Instrument used: The revised NWI (NWI-R) and the revised conditions of work effectiveness questionnaire (CWEQ-II). The NWI-R measures job satisfaction among hospital nurses and organizational attributes related to clinical nursing practice, consists of 49 items. Three subscales are measured: autonomy, nurse control over the practice and relations between nurses and physicians. The qualitative segment of study sample consisted 16 nurse leaders from the same four hospitals: 7 from Magnet and 9 from non-Magnet institute. Nurses employed at Magnet hospitals experienced higher levels of empowerment and job satisfaction in compare to non-Magnet hospitals due to greater access to work empowerment structures. Representing Kanter’s structural theory of organizational behaviour and organizational characteristics indicates Magnet hospitals as promoting structures increasing job satisfaction and empowerment among clinical nurses. Access to certain factors such as opportunity, information, and resources, influenced clinical nurse effectiveness. Nurses at Magnet hospital experienced higher levels of empowerment structures in their practice environment. These essential organizational structures included elements such as emphasis on professional autonomy, respect for and value of professional nursing practice, and systematic communication between clinical nurses and the leadership team. Nurse leaders who have access to power and opportunity were more empowered in their leadership roles. The factors that accounted for differences in leadership effectiveness in Magnet and non-Magnet hospital which accounted for the differences in empowerment and job satisfaction of nurses were: 1. Greater accessibility of Magnet nurse leader, 2. Better support of clinical nurse | 29/32
| 91% |
| 16 | Nursing Unit Characteristics and Patient Outcomes | To examine how organizational characteristics, influence adverse events and failure to rescue in the nursing unit level. Using the NWI-R instrument characteristics like practice control, nurse-management support, and continuity/specialization were examined for their association to the occurrence of nursing sensitive adverse events such as falls, UTIs, pressure ulcers, and failure to rescue. | Exploratory cross-sectional design. A 921-teaching hospital with 21 medical surgical units. (N=390), the NWI-R tool was used. Six months of patient discharges (N=11,496) | High association between adverse events and nurse unit characteristics. High degree of nurses perceived autonomy/collaboration were related to lower rates of pressure ulcer, fall, pneumonia, death, and shorter length of stay (LoS) in hospital. High practice control had fewer rates of fall and UTI and death High nurse manager support was related to lower rates for fall, cardiac arrest, pneumonia, and failure to rescue. High continuity/specialization was related to lesser pressure ulcer occurrence and UTI tendencies. | 38/44 86% |
| 17 | Impact of Magnet Hospital Characteristics on Nurses' Perceptions of Trust, Burnout, Quality of Care, and Work Satisfaction. Laschinger et al., 2001 Canada | Based on Aiken et al. (1997) study the authors hypothesized that if nurses perceived their work environment as fostering high degree of autonomy, control over the practice environment, and strong collaborative nurse/physician relationships, then nurses would experience high levels of trust in management and low levels of burnout. These condition leads to high levels of job satisfaction and | The sample was taken from a larger study done to explore relationships between hospital work environment characteristics, nurse staffing, and nurse outcomes. Instrument used: NWI, Interpersonal Trust at work scale, The Human Services Survey (HSS), | Increase level of autonomy, control, and collaboration were correlated with increased levels of trust in management which was related to job satisfaction and quality patient care. Also, these organizational traits were linked with lower level of burnout which was related to increase job satisfaction and nurse’s perception of quality of care. There is a high impact of positive work conditions on nurses’ job satisfaction and perceptions of quality of care. Organizational trust and emotional weariness have significant influence on nurse job satisfaction and perception of quality of care. Recommendations: | 40/44 91% |
positive perception of the care delivered.

The findings recommend developing work conditions that promotes nurses’ trust in management and lower levels of burnout which influence on the quality of nursing performance and quality of care provided.

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<th>Changes in Patient and Nurse Outcomes Associated with Magnet hospital Recognition. Kutney-Lee et al., 2015 USA</th>
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<td>To examine and compare changes in the work environment of nurses, changes in patient outcomes [mortality and failure-to-rescue (FTR)], nurse reports of quality of care, and nurse job outcomes (burnout, dissatisfaction, and intentions to leave) in a set of hospitals that attained Magnet recognition (emerging Magnets) with non-Magnet in 1999 and 2006. The nurse work environment was measured using the Practice Environment Scale of the Nursing Work Index (PES-NWI), a reliable and valid instrument that describes a set of characteristics that are present in organization supportive of professional nursing practice consisting of 31 items. Five subscales comprise the PES-NWI: Collegial Nurse-Physician Relations, Nurse Manager Ability, Leadership, and Support of Nurses, Nursing Foundations for Quality of Care, and Nurse Retrospective, 2-stage panel design using 4 secondary data sources. Comparing Magnet (emerging) and non-Magnet hospitals between 1999 and 2007 136 hospitals, 11 emerging Magnet and 125 non-Magnet hospitals. Large random samples of registered nurses licensed in Pennsylvania. The nursing work environment was measured using the Practice Environment Scale of the Nursing Work Index (PES-NWI), a reliable and valid instrument that describes a set of characteristics that are present in organization supportive of professional nursing practice consisting of 31 items and five subscales. Five subscales comprise the PES-NWI: 1. Collegial Nurse-Physician Relations, 2. Nurse Manager Ability, Leadership, and Support of Nurses, 3. Nursing Foundations for In 1999 there was not much difference between emerging Magnet and non-Magnet hospital in the outcomes of the study; nurse job outcomes, nurse reported quality and patient outcomes. By 2006 there was a significant difference in the outcomes between Magnet and non-Magnet hospital. At the end of the study: The 30-day surgical mortality rate was substantially lower in hospitals in Magnet than in non-Magnet hospitals. (1.28 vs 1.51, P=0.05). Failure to rescue rates in emerging Magnet hospitals were 2.4 lesser deaths per 1000 patients and 6.1 lesser deaths per 1000 patients in non-Magnet hospitals. The scope of nurses rating the quality of care as ’excellent’ was increased in Magnet hospitals by over 9 % than in non-Magnet hospitals. Nurse confidence in patients’ ability to manage care when discharged was increased from 36.24 to 59.56 and confidence that management will assist in solving patient care problem was increased from 28.7 to 48.39. Nurses in Magnet hospitals had lower levels of burnout (29.7 vs 38.4, P &lt; 0.001) and job satisfaction (21.2 vs. 30.9, P &lt; 0.001), and intentions to leave their job (8.9 vs. 13.4, P &lt; 0.01). Although non-Magnet hospital has increase growth rate, emerging Magnet hospitals had substantially improved in the PES-NWI score than non-Magnet hospitals. From 1991-2006, job dissatisfaction reduced by nearly 9 % (p&lt;0.01) higher than in non-Magnets; (Job dissatisfaction,</td>
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<td>19</td>
<td>Hospitals In 'Magnet' Program Show Better Patient Outcomes On Mortality Measures Compared To Non-'Magnet' Hospitals. Friese et al., 2015 USA</td>
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<td>20</td>
<td>Magnetic work environments: Patient experience outcomes in Magnet versus non-Magnet hospitals. McCaughey et al., 2018 Canada</td>
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<td>Impact of Magnet hospital designation on nursing culture: an integrative review. Anderson et al., 2018 Australia</td>
<td>To examine the impact of Magnet designation on organizational culture related to the nursing setting.</td>
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<td>22</td>
<td>Do Magnet accredited hospitals show improvements in nurse and patient outcomes compared to non-Magnet hospitals. A systematic review.</td>
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<td>23</td>
<td>Factors Affecting Nurse Retention at an Academic Magnet hospital.</td>
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developing a strategic plan to promote a culture of organizational retention.

All respondents were satisfied in average with salary, benefits, and manager’s encouragement/feedback. Inpatient nurses had a higher mentorship subscale.

Qualitative results: Factors for nurses’ retention emerges:
Management: improved manager support and integrity, shared leadership through listening to nurses concerns and ideas, mentoring

Appreciation/Recognition: recognition and appreciation of contribution and achievements, positive feedback, respect and value to nurses

Benefits/salary: good salary, improve benefits, specialization certificate and increase pay for nurses with specialization.

Staffing/shifts scheduling: good nurse patient ratio, work schedule flexibility and predictability, shorter shifts, eliminating rotation

Majority of nurses responded in regard to better nurse patient ratios (N=46), better pay (n=149), improve benefits (n=36) and improve manager support, respectability (n= 23).

Reasons for intent to leave: Managerial lack of support and appreciation, the charge nurse was lacking integrity, dissatisfaction with nurse patient ratio, burnout, and stress, not satisfactory payment, lack of self-scheduling flexibility and predictability.

To test the hypothesis that nurses in hospitals designated as Magnet hospital will inform of being satisfying (fulfilling personal and professional needs) and productive (able to give quality patient care) and productive (able to give quality patient care) A secondary analysis of aggregated data from 10,514 staff nurses in 34 hospitals, 18 of which were Magnet and 16 were comparison hospitals. They had completed the EOMII

Magnet hospital nurses scored high in EOMII than nurses in non-Magnet in all processes essential for a productive work environment (p<.001).

Magnet hospital nurses rated OJS as 6.86 (SD=0.4604) and QC as 8.04 (SD= 0.4376) on the 10-point scale; than nurses in non-Magnet hospitals rated OJS as 6.22 (SD = 0.418) and QC as 7.42 (SD = 0.3222) 5% of the 7,163 nurses in the 18
Productive environment was assessed through EOMII and the two outcome indicators. It was hypothesized that Magnet hospital will score high in compare to non-Magnet hospital.

Additional aims include updating National Magnet hospital Profile; and investigating the relationship between the OJS (overall job satisfaction) and QC (quality care) outcome variables, the professional job satisfaction (Total EOMII) score, and the processes comprising a productive work environment.

The OJS and QC variables were highly interlinked (r= .62) suggesting that a productive and satisfying work environment is a multidimensional, integrated process.
Appendix 2: Quality assessment of qualitative studies (CASP)

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1. Clear aims of the research are stated.
2. Appropriate qualitative methodology is used.
3. Research design is appropriate that address the research aims.
4. Appropriate recruitment strategy to the aims of the research is presented.
5. Research issue is addressed by the proper data collection method.
6. Adequate consideration of relationship between participants and researcher is established.
7. Adequate consideration of ethical issues.
8. Sufficiently rigorous data analysis.
9. Findings are stated clearly.
10. The value of the research is defined.

| ✓ ✓ | Satisfies assessment criteria
| ✓   | Partly satisfies assessment criteria
| 0   | Does not satisfy assessment criteria
| ×   | Assessment criteria do not apply
Appendix 3: Quality assessment of observational studies (STROBE statement)

| REFERENCES                        | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | Score | %  |
|-----------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|
| Chen & Johantgen, 2010            | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 41/44 | 93% |
| Aiken et al., 2008                | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 40/44 | 91% |
| Rettiganti et al., 2018           | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 37/44 | 84% |
| Kelly et al., 2011                | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 42/44 | 95% |
| Schmalenberg & Kramer, 2007       | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 40/44 | 91% |
| Barnes et al., 2016               | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 41/44 | 93% |
| Schamlenberg & Kramer, 2008       | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 37/44 | 84% |
| Mccaughy et al., 2018             | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 39/44 | 89% |
| Armstrong et al., 2009            | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 36/44 | 82% |
| Friese et al., 2015               | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 29/44 | 66% |
| Lachinger et al., 2001            | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 40/44 | 91% |
| Armstrong & Laschinger, 2006      | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 35/44 | 80% |
| Kutney-Lee et al., 2015            | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 42/44 | 95% |
| Ridley et al., 2009               | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 40/44 | 91% |
| Boyle, 2004                       | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | ✔  | 38/44 | 86% |

1. Title and abstract of the study are clear.
2. Scientific background and rationale of the study is described.
3. Objectives of the study are stated.
4. Study design is clearly presented.
5. Settings of the study are described.
6. Eligibility criteria of participants are presented.
7. Variables are defined clearly.
8. Data sources and methods of data measurement are explained.
9. Bias are described.
10. Study size is described.
11. Quantitative variables are described.
12. Statistical methods are explained.
13. Number of participants and other related information are presented.
14. Descriptive data is exhibited.
15. Outcome data is reported.
16. Main results are reported.
17. Other analyses are reported.
18. Key results are summarized.
19. Study limitations are defined.
20. Interpretation is presented.
21. Generalisability is discussed.
22. Sources of funding is presented.

<table>
<thead>
<tr>
<th></th>
<th>Satisfies assessment criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ ✓</td>
<td></td>
</tr>
<tr>
<td>✓</td>
<td>Partly satisfies assessment criteria</td>
</tr>
<tr>
<td>0</td>
<td>Does not satisfy assessment criteria</td>
</tr>
<tr>
<td>×</td>
<td>Assessment criteria do not apply</td>
</tr>
</tbody>
</table>
Appendix 4: Quality assessment of Systematic review (PRISMA 2009 checklist)

| REFERENCES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Score | %  |
|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|
| Salmond et al., 2009 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 0 | 40/48 | 83% |
| Petit Dit Dariel & Regnaux., 2015 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | 0 | 40/48 | 83% |

1. Title of the study is defined.
2. Abstract is defined with structured summary.
3. Objectives are stated.
4. Selection criteria is defined.
5. Sources of information are described.
6. Full electronic search strategy for at least one database is presented.
7. Studies selection process is stated.
8. Method of data extractions from reports are described.
9. Listed and defined all variables for which data were sought.
10. Methods used for assessing risk of bias of individual studies are explained.
11. The principal summary measures are stated.
12. The methods of handling data and combining results of studies are explained.
13. Any assessment of risk of bias that may affect the cumulative evidence is specified.
14. Additional analyses of methods are explained.
15. Study selection criteria and processes are described.
16. Characteristics of each studies are presented.
17. Risk of bias within studies are presented.
18. Results of each individual studies are presented.
19. Synthesis of results are exhibited.
20. Risk of bias across studies are exhibited.
21. Summary of main findings are presented.
22. Limitation and outcome level of studies are discussed.
23. A general interpretation of the results in the context of other evidence, and implications for future research is provided.
24. Sources of funding are described.

☑ ☑ Satisfies assessment criteria
☑ Partly satisfies assessment criteria
0 Does not satisfy assessment criteria
☒ Assessment criteria do not apply
Appendix 5: Quality assessment of mixed method studies and integrative review (QATSDD)

<table>
<thead>
<tr>
<th>REFERENCES</th>
<th>1</th>
<th>2</th>
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<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>Score</th>
<th>%</th>
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<tbody>
<tr>
<td>Buffington et al., 2012</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
<td>0</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>26/32</td>
<td>81%</td>
</tr>
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<td>Upenieks, 2003</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>29/32</td>
<td>91%</td>
</tr>
<tr>
<td>Anderson et al., 2018</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
<td>18/32</td>
<td>56%</td>
</tr>
</tbody>
</table>

1. Explicit theoretical framework is exhibited.
2. Aims/objective is clearly stated.
3. Research setting description is clearly given.
4. Evidence of sample size is considered in terms of analysis.
5. Representative sample of a reasonable size of a target group is given.
6. Data collection procedure is described.
7. Rationale for choice of data collection tools is given.
8. Detailed recruitment data is presented.
9. Statistical assessment of reliability and validity of measurement tools is given. (Quantitative only)
10. The research question matches with method of data collection. (Quantitative only)
11. The research question, format and content of data collection tool matches e.g. interview schedule (Qualitative only)
12. The research question matches with method of analysis. (Quantitative only)
13. Selected analytic method is strongly justified.
14. Reliability of analytic process is assessed. (Qualitative only)
15. There is evidence of user involvement in design.
16. Strengths and limitations are critically discussed.

✓ ✓ Satisfies assessment criteria
✓ Partly satisfies assessment criteria
0 Does not satisfy assessment criteria
x Assessment criteria do not apply