

Characteristics of Magnet Nursing Work Environment that Promotes Patient Safety Culture at Mansoura University Oncology Center

Lecturer, Reda Shehata Elsayed, & Prof. Hala Gabr Mahmoud
Nursing Administration, Faculty of Nursing, Mansoura University, Egypt

Abstract:

The Magnet hospital concept and related criteria have drawn the consideration of researchers and nurses for more than twenty years. Nurses assume an essential part in forming health policy in any nation by observing the problems in the healthcare organizations and evaluating its effects. They understand where enhancements are required to shape care, rise access, enhance proficiency and quality of health services, and encourage prevention. Perfection in nursing care has been connected with constructive results for both nurses and patients. To accomplish magnet status, hospitals should provide confirmation of having band of attributes as exemplary professional practice; knowledge; structural empowerment, improvements, and innovation; and transformational leadership. These attributes act together to shape a positive workplace that ought to prompt better results. Magnet designation gives a helpful mechanism for assessing and changing nursing workplace to be more proficient. Many of the recent efforts concentrated on enhancing patient safety and quality. Less efforts has been focused on enhancing nursing care to improve patient safety. Hence, the present determine the relationship between magnetism dimensions and patient safety culture in inpatient units at Oncology Center Mansoura University (OCMU). A descriptive correlation design was used. Sample of the study consisted of all nurses (n=95 nurses) working in inpatient units in the Oncology Center Mansoura University. Two tools were used for data collection, namely; Magnetism Dimensions Scale and Patient Safety Culture Questionnaire. A major finding of the present study there was a statistically significant correlation between magnetism dimensions and patient safety culture in inpatient units. It was concluded that the nurse administrators play an important role in establishing conditions for magnet work environment that support patient safety culture. It was recommended that additional researches are needed to correlate patient outcomes to magnet issues.

Key words: *nursing work environment, Magnet, Magnet Recognition Program, Forces of Magnetism professional practice environments, quality, patient safety*

Introduction

Recently, healthcare organizations have undergone deep change around the world, determined by complicated political and economic concerns. In addition to the more terrific utilization of new technology, more critical and knowledgeable users of the healthcare system, an aging people, progress in medical knowledge, and governmental efforts to control healthcare expenditures ⁽¹⁾.

The nursing workplace is the sum of several components that indirectly or directly influence the patient care system ⁽²⁾. Enhancing the nursing workplace is a pivotal issue and challenge for nursing managers. Hence, managers in magnet hospitals frequently implement various assessment tools for effective appraisal of the nursing workplace to enhance and maintain healthy environment ⁽³⁾.

Hospital management is expected to lead by example and consistently demonstrate their focus on quality and patient safety and any deficiency on this dimension may harm patient care outcome of hospitals ⁽⁵⁾. Hospitals are looking for identification as magnet environment to establish its elements that meet excellent nursing standards in giving quality and safe patient care. Attractive work environment circumstances and processes of care are essential to reveal an effective professional workplace ⁽⁶⁾. To attain magnet status, hospitals should have band of organizational features as exemplary professional practice, structural empowerment, improvements, knowledge and innovation and transformational leadership. These features interrelate to form a positive workplace that ought to prompt better results ⁽⁷⁾.

A Magnet hospital is defined as an organization that able to attract and keep well-qualified nurses and then constantly ready to give quality care. It has been shown to exhibit organizational features that allow nurses to use their knowledge and expertise completely to provide patient care ⁽⁸⁾. Standards for structuring a hospital to meet the essential requirements for magnet designation were reflected as standards for clinical nursing practice and for planned nursing services ⁽⁹⁾.

Magnet designation gives a valuable mechanism for evaluating and changing nursing workplaces that can be attributed to improved professional practice environments. Many of the recent researches focused on enhancing patient safety, quality and transparency in healthcare ⁽¹⁰⁾. Magnet designation has been required for numerous hospitals with the belief that excellence in the workplace would prompt better patient results. Today, the emphasis of program of magnet recognition isn't on what hospitals perform or how they perform it but instead on what improvement has been done in enhancing results ⁽¹¹⁾. Magnet has driven heading activities to enhance nurses workplaces and improve patient results. It concentrated deeply on the structural components of

the hospital and the work environment to improve nursing performance ⁽¹²⁾.

The demand to enhance quality and patient safety is getting more consideration from healthcare providers, managers and hospitals ⁽⁵⁾. Patient safety has appeared to be the most crucial challenges in hospitals ⁽¹³⁾. It is essential to promote an effective and strong culture of patient safety among healthcare professionals and enhancing this concept in hospitals. Moreover, the need to increase patient safety and decrease unfavorable patient outcomes is an essential professional issue in nursing. Nurse managers should recognize work environments attributes to the enhancement of positive patient results. Rather than just gathering information on payments and processes ⁽¹⁸⁾.

Today, it has become a common practice to measure the quality of patient safety cultures in hospitals to identify relevant problems in this area. Assessment of the current situation of patient safety culture is the most significance in creating such a culture within an organization ⁽¹⁵⁾. Such assessment provides valuable information concerning the conditions of different features of patient safety culture and relevant problems in this area for healthcare organizations, and it also allows inter-organizational comparisons to be made in this context ⁽¹⁶⁾. Healthcare institutions are motivated to utilize these study tools to increase nurses understanding regarding patient safety, assess and diagnose the present culture of patient safety and recognize forces and needed parts for enhancement ⁽¹⁷⁾.

Patient safety is a vital element of quality healthcare. It has the highest importance in developed countries today. So, if hospitals need to enhance patient safety, it is essential to recognize staff opinions regarding patient safety culture. Culture of patient safety is the whole performance of both organizations and individuals, according to common values and beliefs that are pointed at decreasing patient hurt ⁽¹⁹⁾. Concurrent efforts of development by health organizations to enhance the quality of care and develop a safety culture has become more evident. Assessing the culture of patient safety leads to the formation of a general recognizing of the attitudes and perceptions of both staff and managers on issues related to safety ⁽¹⁶⁾.

Patient safety is defined as avoidance of opposing actions for patients. It is defined as a kind of structure or process whose implementation decreases the likelihood of unfavorable actions caused by contact to the healthcare scheme through a variety of procedures and diseases ⁽²⁰⁾. Culture of patient safety is a part of institutional culture and includes norms, shared beliefs, values, attitudes, and employees' behavioral attributes ⁽²¹⁾.

Nurses not only are in charge of giving safe patient care, they are also in charge of making an environment in which others can also give harmless care. Having a profound comprehension of patient safety culture and patient safety permits nurses to be the managers we need to ensure that patients are constantly protected ⁽¹⁷⁾. Excellent nursing care connected to constructive results for nurses and patients. Magnet designation not only supports nurses, which results in better job satisfaction and greater retention. It also seems to affect vital patient results like safety and mortality ^(10, 22).

Assessing patient safety culture in healthcare institutions is the first phase for building up a solid and strong safety culture. Such assessments permit healthcare institutions to acquire a reasonable perspective of areas requiring attention to reinforce the culture of patient safety and recognize particular difficulties in hospital units regarding patient safety ⁽¹⁴⁾. Most significantly, healthcare institutions applying such assessments can benchmark their results against comparable studies implemented inside their nation or on a global area. Less effort has been focused on improving nursing care to enhance patient safety ⁽¹⁰⁾.

Significant of the study

In today's very compound, quick-paced healthcare environment, building a safer healthcare system and enhancing a healthy work environment have become concerns across nationwide. Quality in healthcare begins with confirming patient safety culture which related with a healthcare environment. The concept of nurses workplace and its effect on patient safety is very significant to the survival of healthcare organizations, not only in retaining nurses, but in offering safe care. The assessment of patient safety culture figures out how nurses and well facilities adhere to current safety standards, and whether nurses believe their facilities are enforcing and implementing programs that support a culture of safety in their daily practice. It is imperative to consider organizational factors and characteristics of the work environment which are more effective in creating a culture of safety within institution and enhancing a healthy workplace. Improving the nursing workplace is a vital issue for improving patient safety. So, managers in magnet hospitals always implement various assessment tools for effective evaluation of the nursing workplace to improve and maintain patient safety culture. Logically, there is a relationship among the basic features that creates a magnet work environment and patient safety culture, but this relationship has not yet been studied in Mansoura University Hospitals. Consequently, it is vital for nursing administrators to understand how these features interact to promote patient safety.

Research hypotheses

There is a positive relationship between nurses' perception of magnetism dimensions and patient safety culture in inpatient units at Oncology Center Mansoura University (OCMU).

Aim of the study

The aim of the present study is to determine relationships between magnetism dimensions and patient safety culture in inpatient units at Oncology Center Mansoura University (OCMU).

Subjects and Methods

Design

Descriptive correlational design was utilized in the present study.

Setting

The study was conducted in the Oncology Center Mansoura University (OCMU). It gained ISO 9001 and it make continuous quality improvement measures. It is 142 bed teaching center staffed with 130 nurses that provide a wide spectrum of medical and surgical services. The center includes three inpatient units (surgical, medical, and pediatrics) with 60-bed each, six rooms for paid, two intensive care units, two operating theater (one day surgery & major surgery), one unit for chemotherapy and two outpatient clinics. The study was carried out in all inpatient units.

Subjects

All staff nurses working in the inpatient units and available at the time of data collection were included in the study (n= 95), with at least one year experience were included in the study and oriented to work condition to express their opinion about condition of work environment.

Tools of Data Collection

Two tools were used for data collection, namely Magnetism Dimensions Scale and Patient Safety Culture Questionnaire.

Tool I: Magnetism Dimensions Scale

It consists of two parts:

First part: Personal characteristics of the staff nurses such as: age, educational qualification and years of experience in nursing.

Second part: Magnetism Dimensions Scale to assess level of magnetism in terms of behavioral norms. It was developed by **Upeniaks**⁽²³⁾. It consisted of 56 items categorized into 6 dimensions namely; control over practice includes (14 items), autonomy includes (10 items), physician –nurse relationship includes (3 items), organization support includes (19 items), educational opportunities includes (3 items), and finally dimension was shared governance includes (7 items).

Each response was assigned a score from along a 4-point scale, varying from 1 (strongly agree) and 4 (strongly disagree).

Tool II: Patient Safety Culture Questionnaire

It measures nurses perception regarding patient safety culture in the study units. It was developed by **Agency for Healthcare Research and Quality publication**⁽²⁴⁾. It consisted of two dimensions based on the extent to which they described patient safety climate in hospital.

First: Hospital-Level Dimension which include Management support for patient safety (3 items), Organizational learning & continuous improvement (3 items), Teamwork across units (4 items), Perceptions of patient safety (4 items), and Handoffs & transitions (4 items). Each response was assigned a score from along a 3-point scale, varying from 1 (always) and 3 (non).

Second: Unit Level Dimension which include, Feedback & communication about error (3 items), Frequency of events reported (3 items), teamwork within units (4 items), Non-punitive response to error (3 items), Supervisor/manager expectations & actions promoting safety (4 items), staffing (3 items) and Communication openness health care Staff (3 items).

Subjects responses for Patient Safety Culture in Healthcare Organizations Questionnaire were measured using a three-point Likert Scale that ranged from 1 to 3 (1= agree and 3= disagree).

Methods of Data Collection

1. An initial step of the study was to get the permission of the director of Oncology Center at Mansoura University. Ethical approval was obtained from all study subjects. All participants interviewed for explaining the purposes and procedures of the study..
2. Tools of data collection were translated into Arabic and were tested for its content validity and relevance by a jury consisted of 3 academic staff in Nursing Administration Department at Mansoura, and 10 nurses from different inpatient units of Oncology Center at Mansoura University Hospitals. The necessary modifications were done.
3. A pilot study was conducted on 10% of staff nurses (whom are not included in the study) working at Oncology Center, in order to determine its feasibility and clarity.
4. Reliability: using Cronbach's alpha, the internal consistency of the patient safety culture survey was 0.84
5. The questionnaire was distributed to the study nurses to answer the questions. Each sheet took 20-30 minutes to be answered. Data collected in two months starting June 2016.

Statistical analysis

The collected data were organized, tabulated and statistically analyzed using SPSS software statistical computer package version 19. Data summarized using mean and standard deviation for numerical variables. For comparative purpose, score are presented as absolute values and as percentages from the maximum score of each topic. This maximum score depends on the number of items of each topic. Correlation between variables was evaluated using Pearson's correlation coefficient. The threshold of significance was fixed at the $p < 0.05$, 0.01 level for interpretation of results of tests of significance.

Results

Table 1. Demographic characteristics of the study subjects (n=95).

Characteristics	No.	%
Age		
< 25	18	18.95
25- 35	54	56.84
>40	23	24.21
<i>Mean ± S.D 29.726±6.702</i>		
Years of experience		
<10	31	32.63
10- >20	44 20	46.32 21.05
<i>Mean ± S.D 12.210 ± 4.690</i>		
Qualifications		
Bachelor Degree	21	22.10
Technical Degree	26	27.37
Diploma + specialty Diploma	10	10.53
Degree	38	40.00
Marital status		
Single	11	11.58
Married	75	78.95
Window	5	5.26
Divorced	4	4.21
Unit		
Surgical	38	40
Medical	42	44.21
pediatrics	15	15.79

In **Table 1** depicts about quarter of the study subjects were 24.21% in the age group more than 40 years old. Almost all of nurses in the study 46.32% had more than 10 years of experience and about 40% of them held a diploma nursing program and were married and working in surgical units.

Table 2: Descriptive statistics of the magnetism dimensions as perceived by the study subjects.

Elements	Max.score	Study nurses (n=95)	
		Mean \pm SD	% *
Control over practice	56	25.326 \pm 7.191	45.22
Autonomy	40	16.947 \pm 4.098	42.36
Nurse-physician relationship	12	4.368 \pm 2.3	36.4
Organization support	76	35.284 \pm 12	46.42
Educational opportunities	12	4.105 \pm 1.207	34.20
Shared governance	28	12.126 \pm 2.6	43.30
Total magnetism scores	224	98.157 \pm19.207	43.82

* Percentages are calculated relative to maximum score .

Table 2 shows descriptive statistics of the magnetism dimensions as perceived by the study subjects. The overall level of magnetism was 98.157 representing 43.82% of maximum score. The item of organization support had the highest mean score 46.42% of maximum and followed by control over practice was 45.22%. While the least level of nurses' educational opportunities was 34.20% of maximum score.

Table 3. Descriptive statistics of patient safety culture as perceived by the study subjects.

Dimensions of patient safety culture	Max.score	Study nurses (n=95)	
		Mean \pm SD	% *
Teamwork within hospital units	12	4.736 \pm 1.023	39.47
Perception of patient safety	12	5.610 \pm 1.453	46.75
Organizational Learning	9	4.042 \pm 1.184	44.91
Staffing	9	3.968 \pm 1.066	44.09
Non punitive response	9	4.536 \pm 1.008	50.4
Supervisor expectations and actions promoting patient safety	12	5.810 \pm 1.619	48.42
Feedback and communication about error	9	4.800 \pm 1.418	53.33
Communication openness	9	4.926 \pm 1.256	54.73
Frequency of events reported	12	6.200 \pm 1.784	51.67
Management support for patient safety	9	5.000 \pm 1.288	55.56
Teamwork across hospital units	12	6.736 \pm 1.664	56.13
Handoffs and Transitions	12	5.989 \pm 1.926	49.91
Total Patient Safety	126	62.357 \pm8.756	49.49

* Percentages are calculated relative to maximum score

Table 3 presents descriptive statistics of patient safety culture as perceived by the study subjects. This table revealed the overall level of patient safety in study settings was 62.357 representing 49.49% of maximum score. This table also shows the highest mean score was 6.736 observed for teamwork across hospital units representing 56.13% of maximum score and followed by 6.200 mean score for frequency of events reported. While the least level of nurses' teamwork within hospital units was 39.47% of maximum score.

Table 4 shows relationship between magnetism dimensions and patient safety culture in the selected settings. The results in this table revealed that there was a significant correlation between magnetism dimensions and patient safety culture in the selected settings. The table also shows most of the magnetism dimensions were significantly correlated with patient safety culture except teamwork within hospital unit, and handoffs and transitions were not significantly correlated with control over practice and autonomy. The table also shows non punitive response were not significantly correlated with most magnetism dimensions except educational opportunities was negatively correlate.

Table 4: Relationship between magnetism dimensions and patient safety culture in the selected settings (n= 95)

Dimensions of Patient Safety	Magnetism dimensions						
	Control over practice	Autonomy	Nurse-physician relationship	Organization support	Educational opportunities	Shared governance	Total Magnetism
Teamwork within hospital unit	.075 .470	.021 .839	.365** .000	.042 .683	.195 .058	.066 .527	.016 .876
Perception of patient safety	.266** .009	.379** .000	.112 .281	.398** .000	.096 .353	.437** .000	.425** .000
Organizational Learning	.203* .048	.121 .243	.085 .412	.224* .029	.071 .492	.354** .000	.262* .010
Staffing	.261* .011	.336** .001	.189 .066	.406** .000	.143 .167	.407** .000	.422** .000
Non punitive response	.068 .513	.118 .256	-.089 .389	.036 .731	-.213* .038	.010 .920	.044 .672
Supervisor promoting patient safety	.267** .009	.348** .001	.168 .104	.387** .000	.168 .103	.473** .000	.431** .000
Feedback and communication about error	.273** .007	.457** .000	.232* .024	.483** .000	.329** .001	.345** .001	.486** .000
Communication openness	.265** .009	.231* .025	.134 .196	.362** .000	.019 .854	.372** .000	.366** .000
Frequency of events reported	.295** .004	.340** .001	.212* .039	.457** .000	.049 .634	.478** .000	.464** .000
Management support for patient safety	.365** .000	.510** .000	.147 .156	.577** .000	.246* .016	.480** .000	.578** .000
Teamwork across hospital units	.261* .011	.260* .011	.404** .000	.565** .000	.236* .021	.428** .000	.497** .000
Handoffs and Transitions	.168 .104	.075 .468	.153 .139	.308** .002	.238* .020	.527** .000	.320** .002
Total Patient Safety	.434** .000	.513** .000	.349** .001	.700** .000	.272** .008	.725** .000	.716** .000

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

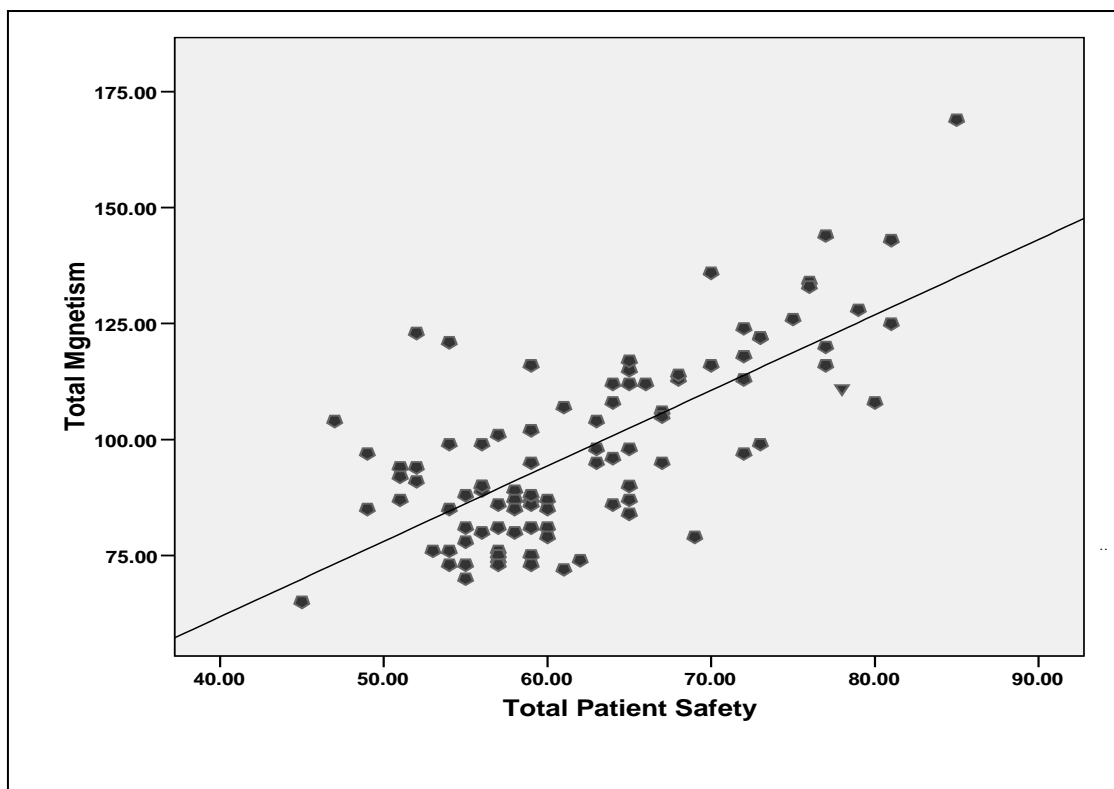


Figure 1. Correlation between the total magnetism and patient safety in the selected settings.

Figure 1 shows that there was statistically significant positive correlation between total magnetism and patient safety ($r = .716$, $p < 0.01$) in the selected settings. This indicates that increase magnetism dimensions scores as

viewed by nurses resulted in promoting patient safety.

Discussion

Today, hospitals offer care in a dynamic and complex setting with its emphasis on providing patient care in a resource competitive constrained market. Safety is a vital principle of patient care, including a broad range of actions in performance enhancement, risk management and workplace safety involving clinical practice safety, equipment safety, safe environment of care, secure use of medicines and infection control⁽⁵⁾. There is a broad approval that the healthcare quality provided in terms of improving patient safety⁽²⁵⁾.

It is broadly identified that the nursing workplace is vital for providing safety and quality care. Many researches proposes that features of environment have a significant effect on nurses and patients outcomes⁽²⁶⁾. Hospitals magnet work environment had good consequences for both patients and nurses⁽²⁷⁾. The process of magnet obligates hospitals to improve and scatter evidence-based criteria, leading to a constructive nursing workplace⁽²⁸⁾.

The main findings of the present study revealed a significant correlation between magnet nursing work environment and patient safety in the study inpatient units. This may be contributed to magnet hospitals maintain a healthy workplace for nurses, accompanied by better patient prognosis and higher nurse satisfaction than non-magnet organizations. A healthy workplace that supports proficient practice positively influences length of stay, patient safety, quality of work life, nurse retention and level of job stress⁽²⁶⁾. It also increases job satisfaction obtained from being able to provide quality patient care, offering the required facility and making variation in the health and lives of patients⁽²⁹⁾.

Again, the results of the present study agreed with Kvist et al.,⁽²⁸⁾ who found magnet work environment promotes patient safety. This is consistent with Kutney-Lee et al.,⁽³⁰⁾ who revealed magnet hospitals had significantly more enhancement in nurse and patient consequences over time. They found magnet status had a significant improvements of nursing workplace and consequently patient safety. This the same view of Gu & Zhang,⁽³⁾ who pointed the basics of magnetism tool is to concentrate on the characteristics of a healthy nursing workplace and helps assessment of the magnetism status of the environment, making the base for administrators to decide whether a hospital is competent to join the Magnet Recognition Program.

In addition to Yildirim et al.,⁽⁴⁾ mentioned that the tool of magnetism was created to assess magnetic, creative and healthy clinical unit workplaces. The present study results offered an evidence of the significance of magnet nursing work environment for improving patient safety. They suggest that hospitals that provide nurses with high levels of magnet features which support their professional practice, optimally are hospitals that enhance good circumstances for providing safe patient care. This is agreed with Mills & Gillespie,⁽⁷⁾ who stated that magnet workplace in good hospitals would have improved patient results, with less avoidable complications.

In addition to a study done by Armstrong & Laschinger,⁽³¹⁾ who concluded magnet hospitals with professional nursing practices and constructive workplaces are characterized by high quality and safe patient care. The findings of the present study also consistent with the results of Stimpfel et al.,⁽¹⁰⁾ who concluded that when nurses work in a constructive workplace, with sufficient support and resources, the total quality of care can be improved. This is inconsistency with results of Trinkoff et al.,⁽³²⁾ who found not significantly different score in patient safety culture between nurses working in non-magnet and magnet hospitals.

Successful teamwork is viewed as the foundation of quality patient care⁽³³⁾. Groups, similar to individuals can create patient safety and when working well have the possibility to be safer than individuals. Findings of the present study showed that there is a significant correlation between teamwork through hospital units, magnet workplace and management support for patient safety. This is the same line of Kaufman & McCaughan,⁽²⁵⁾ who considered teamwork indicates a sharing of responsibility and a multi-professional approach to give safe patient care. This is essential since institutions of healthcare are increasingly using additional complicated technologies and treatments, and treating patients with multifaceted comorbidities⁽¹⁷⁾.

Patient safety culture was noted by Weaver et al.,⁽³⁴⁾ as a collection of rooted interventions in the principles of performance change, leadership and teamwork rather than a definite technology or process. In the Aiken et al.,⁽³⁵⁾ study results indicated that the quality of the hospital workplace that characterized by good nurse-physician relations, managerial support for nursing care, organizational priorities on care quality and nurse involvement in decision making were significantly connected with safety and quality of care, nurse workforce and patient satisfaction results in all countries. This is the same view of Papstavrou et al.,⁽²⁷⁾ & Coetzee et al.,⁽³⁶⁾ who found positive practice environment improves outcomes of patient safety and quality of care.

As well as Kramer et al.,⁽²⁹⁾ defined eight work processes/relationships identified as vital to a healthy workplace namely; adoption and transmission of patient-centered cultural values, adequate staffing, clinical autonomy, educational support, working with clinically competent peers, supportive nurse manager relationship, control of nursing practice and collaborative physician- nurse relationship. These findings align with Kutney-Lee et al.,⁽³⁰⁾ Aiken et al.,⁽³⁵⁾ studies that has demonstrated that the healthy workplaces delivered

by magnet institutions give a clear description for why results are better in these organizations, in addition to many worldwide literature that relates improved nurse job and patient outcomes to the quality of nursing workplace.

Again, finding of the present study offer early indication for a possible causal connection between the improvement of nursing workplace based on magnet characteristics and promotion of patient safety. This proposes that magnet institutions create better quality of care through their expert practice environments. Our results point to the practice environment as being a main driver of the magnet influence on safe care and quality. This is the same view of Stimpfel, et al.,⁽¹⁰⁾ who indicated all institutions, magnet and otherwise, have the potential to develop their workplace to enhance nursing care. Drawing from the main magnet principles, institutions can create and model a quality practice environment.

The basic elements of magnetism forces was mentioned by Floyd & Mulvey,⁽³⁷⁾ include; evidence-based practice and research, supportive nurse supervisors and managers, support for education, sufficient nurse staffing, good physician– nurse relationships, working with other proficient nurses, high quality patient care, nurse autonomy and accountability, work environment and control over nursing practice. In addition magnet model gives more consideration on processes of leadership in nursing to enhance the patient safety⁽²⁸⁾.

Findings of the present study revealed most characteristic of magnet work environment were correlated with communication openness, communication about error, organizational learning, feedback and staffing. This is agreed with Kvist et al.,⁽²⁸⁾ Who adopt more magnet hospital features as nurse participation in hospital affairs, transformational leadership and cooperative physician– nurse leadership, are key elements to higher patient safety culture. The present study revealed staffing is important characteristics of magnetic work environment to promote patient safety. This is agreed with Mills & Gillespie,⁽⁷⁾ and Nie, et al.,⁽¹⁹⁾ who mentioned that sufficient staff is important to provide quality and safe patient care and is one of the major challenges.

Giving constructive criticism and rewarding particularly have to become part of daily work in magnet hospitals, this is also vital for culture of patient safety because of the constant education it involves⁽²⁸⁾. However, Thompson et al.,⁽³⁸⁾ found significant differences between low and high member– leader exchange scoring units in terms of manager actions and expectations encouraging institutional learning, communication about error, non-punitive response to error, communication openness, safety, feedback, and continuous improvement. And Moussavi et al.,⁽¹⁶⁾ found evidence that features of the magnet model have supported high quality results.

Nurses took more time in communicating and contacting with patients, so they had more chance to deal with issues of patient safety⁽¹⁹⁾. They recommended some strategies to promote patient safety as allocating adequate workload and sufficient staff, giving education and training for health care employees in various levels on patient safety, constructing an open communication atmosphere for reporting medical errors and talking up when any problem occurs, creating and developing patient safety culture especially in the form of a non-punitive culture

As regards to dimensions of patient's safety, findings of the present study revealed hospital handoffs and transitions are important characteristics of the magnet work environment to promote patient safety. Handoff is described as a process utilized by health care experts when offering a status report to other individuals of the health team⁽¹⁸⁾. This is agreed with Moussavi et al.,⁽¹⁶⁾ study who stated that developing non-punitive culture in organizations is conducive to safety improvements and, consequently will lead to the promotion of service quality. Rather than blaming and punishing individuals when safety-related incidents occur, the culture should support efforts to conduct comprehensive assessments of the major factors that cause trouble and determine ways to eliminate these factors. Moreover, it is necessary to create an open and free communication atmosphere in which errors and events can be reported among different groups involved in providing care.

Findings of the present study revealed areas for promoting patient safety as communication, non-punitive reply to error, hospital transitions and handoffs, and manager expectations play important roles to promote patient safety. This may be due to nursing staff are unable to speak and discuss safety problems freely or increase concerns related to errors and mistakes that alter patient safety. This is the same view of Borowitz et al.,⁽⁴⁰⁾ who reported handoffs and transitions have a significant effect on patient safety. In addition to Aboshaiqah et al.,⁽⁴¹⁾ found ineffective communication leads to unsafe actions that may affect patients' health conditions. This probably lead to some factors, such as fear of job loss, punishment or blame and possibility for shame, which have been recognized in the literature related to reporting mistakes.

Providing feedback about failures in care delivery which including serious incidents or near misses was encouraging hospital education, and considered as another vital step in building up a safety culture^(42,43). A non-punitive setting where hospital staff feel confident and free in documenting actions without fear of blame is important for better reporting of events and therefore a more safe workplace. It is necessary to assess patient safety culture in health institutions and more significant make modifications based on the outcomes of such assessments. Systematic assessment and reporting of patient safety culture is also needed by some international

and national surveys. Patient safety issues must be included in training programs for nurses and installed inside the basis of institutional structures⁽¹⁴⁾. The need to confirm safety in the healthcare institutions is driving the improvement of policies aimed at enhancing the clinical practice as well as health care professionals' training on a worldwide scale⁽⁴⁴⁾.

Conclusion and Recommendations

The present study confirms that the dimensions of magnet work environment are not only necessary to improve nurses' work environment and organizational outcomes but they also stimulate the nurses to promote patient safety. This means that the present study highlights that the overall patient safety dimensions can be optimized when nurses work in a positive environment with autonomy, control over practice, sufficient resources, physician-nurse relationship, support at the organizational level, educational opportunities and shared governance.

Based on the findings of the present study, the following can be recommended:-

1. Hospitals administrators should implement various assessment tools for successful appraisal of the nursing workplace to develop and maintain healthy environment focus on magnet status.
2. Nurse administrators have a vital role in founding the circumstances for expert nursing practice and creating environments consistent with magnet hospital standards that maintain a culture of patient safety.
3. Hospital management should create policies and procedures that enhance safety and provide appropriate system resources.
4. Nurse leaders should pay attention to nurses' concerns, recognize approaches for improvement, and then work cooperatively with them to facilitate development in organizational processes and provide ideal patient care.
5. Further research is required to recognize the specific workplace issues embedded in magnet hospitals.
6. Additional studies should be undertaken to correlate patient outcomes to magnet issues.

References

1. Notara, V., Koupidis, S.A., Vaga, E. & Grammatikopoulos, I.A. Economic crisis and challenges for the Greek healthcare system: the emergent role of nursing management. *Journal of Nursing Management*, 2010, 18(5), 501–504.
2. Biegger, A., De Geest, S., Schubert, M. & Ausserhofer, D. The 'magnetic forces' of Swiss acute care hospitals: A secondary data analysis on nurses' job satisfaction and their intention to leave their current job, *Nursing Plus Open*, 2016.
3. Gu, L. & Zhang, L. Assessment tools of nursing work environment in magnet hospitals: A review, *International Journal of Nursing Sciences*, 2014; 4(3): 7-44
4. Yıldırım, D., Kısa S. & Hisar F. Validity and reliability of the Turkish version of the Essentials of Magnetism Scale (EOM II). *International Nursing Review*, 2012, 59, 570-576.
5. Chakravarty, B., Sahu, M., Biswas, B. et al. A study of assessment of patient safety climate in tertiary care hospitals, *Medical Journal Armed Forces India*, 2015, 7; 152-157.
6. Kramer M, Maguire P, Brewer BB. Clinical nurses in Magnet hospitals confirm productive, healthy unit work environments. *J Nurs Manag.* 2010;19(1):5-17.
7. Mills, A. & Gillespie, K. 2013 Effect of Magnet Hospital Recognition on 2 Patient Outcomes, *J Nurs Care Qual* 28(1): 17–23.
8. Scott, L. It's all about the outcomes. *Hosp Health Netw.* 2010;22-26.
9. Royal College of Nursing, RCN policy and international department, Discussion paper: The magnet Recognition Programme: A discussion of its development, success and challenges for adoption in the UK, July 2015:1-11, international@rcn.org.uk, www.rcn.org.uk/policy.
10. Stimpfel, A., Rosen, J., McHugh, M. et al., 2014 Understanding the Role of the Professional Practice Environment on Quality of Care in Magnet A and Non-Magnet Hospitals. *JONA*, 2014, 44(1): 10-16
11. Needleman J, Buerhaus P, Pankratz S, et al. Nurse staffing and inpatient hospital mortality. *N Eng J Med.* 2011;364(11):1037-1045.
12. Goode, C., Blegen, M., Park, S. et al. 2011. Comparison of Patient Outcomes in Magnet A and Non-Magnet Hospitals, *JONA*, 2011, 41(12): 517-523
13. McFadden, K., Stock, G., & Gowen, C. Leadership, safety climate, and continuous quality improvement: Impact on process quality and patient safety *Health Care Manage Rev*, 2014, 00(0), 00Y00.
14. El-Jardali, F., Sheikh, F., Garcia, N. et al. Patient safety culture in a large teaching hospital in Riyadh: baseline

- assessment, comparative analysis and opportunities for improvement, *BMC Health Services Research* 2014, 14:122.<http://www.biomedcentral.com/1472-6963/14/122>.
- 15.Chen IC,& Li HH. Measuring patient safety culture in Taiwan using the Hospital Survey on Patient Safety Culture (HSOPSC). *Bmc Health Serv Res.* 2010 Jun 7;10.
- 16.Moussavi, F. Moghri,J., Gholizadeh,Y. et al.,2014. Assessment of patient safety culture among personnel in the hospitals associated with Islamic Azad University in Tehran in 2013, *Electronic physician*, Year 2013; Vol. 5, Issue 3,664-671
- 17.Ulrich, B., & Kear, T. Patient safety and patient safety culture: Foundations of excellent health care delivery. *Nephrology Nursing Journal*, 2014,41(5), 447-456, 505.
- 18.Rosse,F., de Bruijne,M., Suurmond,J., et al. Language barriers and patient safety risks in hospital care. A mixed methods study, *International Journal of Nursing Studies*,2016, 54: 45–53.
- 19.Nie, Y. Cui,H. He,S. et al. Hospital survey on patient safety culture in China, *BMC Health Services Research* 2013, 13:228<http://www.biomedcentral.com/1472-6963/13/228>.
20. Nordin A. Patient safety culture in hospital settings: Measurements, health care staff perceptions and suggestions for improvement. Faculty of health, Science and technology, Nursing Science, Dissertation, Karlstad University Studies, 2015:20.
21. Najjar s., Nafouri N.,Vanhaecht K., & Euwema M. The relationship between patient safety culture and adverse events: a study in Palestinian hospitals. *Safety in Health* (2015), 1:16 doi: 101186/s40886-015-0008-z.
- 22.McHugh MD, Kelly LA, Smith HL, Wu ES, Vanak JM, Aiken LH. Lower mortality in Magnet hospitals. *Med Care.* 2013;51(5):382-388.
- 23.Upenieks, V.: “Assessing Differences in Job Satisfaction of Nurses in Magnet and Non magnet Hospitals,” *Journal of Nursing Administration.* 2002,32(11):564-576.
- 24.Agency for Healthcare Research and Quality publication. Agency for Healthcare Research and Quality. (2007). Patient safety culture surveys. Retrieved April 14, 2009, from <http://www.ahrq.gov/qual/patientsafetyculture/>
- 25.Kaufman G, McCaughan D. The effect of organisational culture on patient safety. *Nursing Standard*,2013, 27, 43, 50-56. Date of submission: December 1 2012; date of acceptance: March 11 2013
- 26.Kirwan, M., Matthews, A & Scott P.A. The impact of the work environment of nurses on patient safety outcomes: a multi-level modeling approach. *International Journal of Nursing Studies*, 2013,50 (2), 253–263.
- 27.Papastavrou, E., Efstathiou, G., Lemonidou, C., et al. Cypriot and Greek nurses’ perceptions of the professional practice environment. *International Nursing Review*,2014, 61, 171–178
- 28.Kvist, T. , MA` Ntynen, R., Turunen, H. , et al. How magnetic are Finnish hospitals measured by transformational leadership and empirical quality outcomes?, *Journal of Nursing Management*,2013, 21, 152–164
- 29.Kramer,M , Maguire, P. & Berwer, B.B. Clinical nurses in Magnet hospitals confirm productive, healthy unit work Environments, *Journal of Nursing Management*,2011, 19, 5–17
- 30.Kutney-Lee,A. Stimpfel,A. Sloane,D.et al. Changes in Patient and Nurse Outcomes Associated With Magnet Hospital Recognition, *Med Care*, 2015;53: 550–557
- 31.Armstrong KJ, Laschinger H. Magnet hospital characteristics, and patient safety culture making the link. *J Nurs Care Qual.* 2006;21(2):124-132.
- 32.Trinkoff A, Johantgen M, Storr C, et al. A comparison of working conditions among nurses in Magnet and non-Magnet hospitals. *J Nurs Adm.* 2010;40(7/8):309-315.
- 33.Reid J, & Bromiley M. Clinical human factors: the need to speak up to improve patient safety. *Nursing Standard*,2012, 26, 35, 35-40.
- 34.Weaver, S.J., Lubomski, L.H., Wilson, R.F., et al. Promoting a culture of safety as a patient safety strategy: A systematic review. *Annals of Internal Medicine*,2013, 158(5, Part 2), 369-375.
- 35.Aiken, L.H., Sloane, D.M., Bruyneel, L., et al.Nurses’ reports of working conditions and hospital quality of care in 12 countries in Europe. *International Journal of Nursing Studies*, 2013,50 (2), 143–153. doi:10.1016/j.ijnurstu.2012.11.009.
- 36.Coetsee, S.K., Klopper, H.C., Ellis, S.M. et al. A tale of two systems – nurses practice environment, well-being, perceived quality of care and patient safety in private and public hospitals in South Africa: a questionnaire survey. *International Journal of Nursing Studies*,2013, 50 (2), 162–173.
- 37.Floyd J. & Mulvey C.Establishing the recognition program. In *Magnet: The next generation – nurses making the difference.* Magnet recognition program (K. Drenkard, G. Wolf & S.H. Morgan eds),2011, pp. 9–22, American Nurses Credential Centre, Silver Spring, MD.
- 38.Thompson D.T., Hoffman L.A., Sereika S.M. et al. A relational leadership perspective on unit-level safety climate. *Journal of Nursing Administration*,2011, 41, 479–487.
- 39.Chen Y.-M. & Johantgen M.E. Magnet hospital attributes in European hospitals: a multilevel model of job satisfaction. *International Journal of Nursing Studies*,2010, 47, 1001–1012.

40. Borowitz S, Waggoner-Fountain L, Bass E, Sledd R. Adequacy of information transferred at resident sign-out (in hospital handover of care): a prospective survey. *Qual Saf Health Care*. 2008;17(1):6-10.
41. Aboshaiqah, A & Baker, O. et al. Assessment of Nurses' Perceptions of Patient Safety Culture in a Saudi Arabia Hospital. *J Nurs Care Qual*, 2013, 28(3):272–280
42. Schwendimann R, Milne J, Frush K, et al. A closer look at associations between hospital leadership walk rounds and patient safety climate and risk reduction: a cross-sectional study. *Am J Med Qual*. 2013;28(5):414-421.
43. Auer, C. Schwendimann, R. Koch, R et al. How Hospital Leaders Contribute to Patient Safety Through the Development of Trust. *JONA*, 2014, 44(1): 23-29.
44. Bressan, V., Stevanin, S., Bulfone, G. et al. Measuring patient safety knowledge and competences as perceived by nursing students: An Italian validation study. *Nurse Education in Practice*, 2016, 16: 209-216