

## Nurses' Safety Attitude and their Readiness for Quality Improvement

Ghada Mohamed Hamouda<sup>1</sup>, Sally Mohammed Fargaly Abd El-Aliem<sup>2</sup>

<sup>1</sup>Assistant Professor, Nursing Administration Department, Faculty of Nursing, Alexandria University, Alexandria, Egypt

<sup>2</sup>Lecturer, Nursing Administration Department, Faculty of Nursing, Alexandria University, Alexandria, Egypt  
Corresponding Author: Sally Mohammed Farghaly Abd El-Aliem

---

### Abstract

**Background:** Nowadays, increasing attention has been devoted to the patient safety culture within health administrative departments and healthcare organizations. **Aim:** The study aims to investigate nurses' safety attitude and their readiness for quality improvement at Main University Hospital- Alexandria. **Method:** A demographic questions and the SAQ and CQI Readiness surveys were distributed among the study subjects to collect data about their attitudes regarding patient safety and their readiness for quality improvement. **Results:** It was found that there was a highly statistically significant difference between nurses' safety attitude with their readiness for quality improvement. Managers should keep in track for changing nurses' attitude toward quality as a worthy goal, notify them with a clear and constant standard of care to be familiar with and engaged them in all steps of the quality cycle to be responsible for quality outcomes.

**Key Words:** Nurses' attitude, Patient safety, Readiness, Quality improvement.

---

Date of Submission: 13-11-2018

Date of acceptance: 28-11-2018

---

### I. Introduction

In recent decades, health care was advanced using new technologies and modern therapies, in spite of this, the occurrence of undesirable outcomes in such a care refers to medical errors. These incidences may take place because of certain reasons: a. Patient Safety Culture, b. Quality of Care, and c. Nurses' Perception that reflects their attitudes and values toward social, psychological and organizational factors<sup>(1)</sup>.

Safety culture can be realized as the combination of individual and group values, attitudes, perceptions that specifies the commitment and style, concerning questions related to patient safety in a health setting<sup>(2)</sup>. In order to keep culture safety, the administration has a pivotal role in improving positive nurses' attitude as a strength and overcoming factors contribute to hinder implementation of safety climate. This is done through managing change to get on strategic planning and researches, developing professional and nonprofessional nurses by in-service training programs, maintain infrastructure and organizational structure, as well as enhance positive work environment as communication, teamwork skills among nurses for guaranteeing high-quality patient care<sup>(3)</sup>.

The Institute of Medicine<sup>(4)</sup> defines health care quality as the explicit correlation between the improvement of health services level and the expected health outcomes of individuals and populations<sup>(5)</sup>. Quality improvement often seeks to raise the standards of care for whole populations focusing on microsystems, understanding and implementing the improvement cycle, utilizing improvement models, and tools to enhance quality improvement initiatives<sup>(6)</sup>. Quality improvement (QI) is a systematic analysis of practice and combined efforts of healthcare professionals, educators, researchers, patients, and their relatives to make proper changes and improve performance. Berwick mentioned that quality improvement consists of managerial and organizational activities are formulated for maintaining streamline of processes and achieving the desired outcome<sup>(7)</sup>.

In order to be committed to the quality plan, administration enhances nurses to participate in improvement initiatives and to be accountable for abiding by policies or evidence-based protocols through the shared governance structure<sup>(8)</sup>. In addition, the administration supports nurses' daily efforts by constructively addresses problem and disagreements, respects their needs which reflects on safe patient care, adequate supervision, also, nurse-physician collaboration is reinforced<sup>(9)</sup>. Encourage nurses to know the proper channels

to obtain information regarding patient safety, discuss and report incidences and errors to learn from these situations, share experiences, receive appropriate feedback about performance<sup>(10)</sup>.

The QI process contains the main concepts: a culture of quality which establishing QI teams, regular meetings, creating policies and dealing with nurses on an individual base to alter their attitudes and behaviors<sup>(11)</sup>. Determine potential areas for improvement by assessing patients' problems, barriers to care, environmental conditions that reflect on the level of satisfaction, participation as well as communication<sup>(12)</sup>. Analyze data collected by monitoring to understand how the system is work and to help in making effective changes and proper decisions. Communicate results such as needs, priorities, actions to all nursing staff, physicians, patients, and the whole team members. Commit to ongoing evaluation through effective interventions, frequent feedback, and continuous quality improvement. Share successes with others that benefits all patients and the health care providers as a whole<sup>(13)</sup>.

Understanding how to make healthcare safer is not hard. Healthcare systems are extraordinarily diverse in terms of the activities, facing huge complicated problems, makes the healthcare sectors insisting to create a high quality of care, safe environment with no harm for patients and all individuals<sup>(14, 15)</sup>. So, the aim of this study is to investigate staff nurses' attitude regarding patient safety and their readiness for quality improvement.

### **The aim of the Study**

The study aims to investigatenurses' safety attitude and their readiness for quality improvement at Main University Hospital- Alexandria.

### **Research Question**

What is the relationship between nurses' safety attitude and their readiness for quality improvement?

## **II. Materials And Method**

### **Research Design**

A descriptive correlational design was used.

### **Setting:**

The study was executed in all In-patient medical, surgical and intensive care units and its specialties at Alexandria Main University Hospital. It is a teaching hospital equipped with 1724 beds. The capacity of Medical units was 951, 773 beds in surgical units and 100 beds in intensive care units with a wide range of ambulatory care services such as Out-Patient, Pharmacy, Emergency, X-ray, Physiotherapy, Teaching Center; and Paramedical Services as Dietary, Laundry, and Maintenance. It is a non-paying hospital for all departments except the 6<sup>th</sup> floor which is private for medical and surgical inpatients. The number of inpatient units included in the study was 44 units: 23 medical, 15 surgical, and 6 intensive care units.

### **Subjects:**

The study subjects' included convenience sampling of staff nurses who approved their participation in the study in the previously mentioned units and available at the time of data collection (N= 228). They divided as following:n =54 staff nurse working at medical units, n=24 staff nurse working at surgical units, and n= 150 staff nurse working at intensive care units based on power analysis:

1. The population size N= 500.
2. Expected frequency 50%
3. Acceptable error 5% and  $\alpha=0.05$
4. Epi Info Program denotes that Confidence coefficient at 95% is with a sample size (n=228)

### **Tool 1:Safety Attitudes Questionnaire (SAQ)**

The SAQ was developed by Sexton (2006)<sup>(16)</sup>. It contains six dimensions with 30 items: Teamwork Climate (6 items) with one reverse score of item 2 , Safety Climate (7 items) with one reverse score of item 11 , Job Satisfaction (5 items), Stress Recognition (4 items), Perception of Management (4 items), and Working Conditions (4 items). The score was based on uses a five-point Likert scale: 1=StronglyDisagree,2=SlightlyDisagree,3=Neutral,4=SlightlyAgree,5=StronglyAgree.Statistical tests were performed to calculate the mean scores, standard deviations, and P-values. Regarding the scoring system of SAQ,the 30 items have a maximum score of 142 indicating the high level of patient safety attitude. A score

ranged from 0-47 = (low safety attitude level), 48-94 = (moderate safety attitude level), and 95-142 = (high safety attitude level).

**Tool 2: Continuous Quality Improvement Climate Survey/Readiness Survey:**

The CQI Readiness Survey adapted by Dana (2010)<sup>(17)</sup>. The CQI Climate Survey is designed to specifically assess obstacles to successful implementation of CQI. It contains five dimensions with 25 items: a. Internal customer focus and use of team process (10 items), b. Understanding of process (4 items), c. Use of data in decision-making (4 items), d. Common understanding of quality and customers' needs and wants (3 items), and e. Management's opportunity to lead CQI (4 items). The score was based on uses a five-point Likert scale: (1) = Strongly Disagree, (2) = Slightly Disagree, (3) = Neutral, (4) = Slightly Agree, (5) = Strongly Agree. Statistical tests were carried out to calculate the mean scores, standard deviations, and P-values. Regarding CQI readiness survey scoring system, the 25 items have a maximum score of 125 indicating the high level of patient safety attitude. A score ranged from 0-41 = (low level of CQI readiness), 42-82 = (moderate level of CQI readiness), and 83-125 = (high level of CQI readiness). In addition, a demographic characteristics questions developed by researchers related to (age, educational level, working units, and years of experience).

**Data Collection**

A written approval had taken from the hospital management to collect data of the study. As well as, a pilot study for the questionnaire was performed on 10% (23 staff nurses) who were not involved in the research subjects' in order to estimate the visibility and applicability of the tool, identify problems that may make a barrier for collecting the data. Additionally, the questionnaire reliability was examined using Cronbach's alpha coefficient test to measure the internal consistency tool. The questionnaire was proved reliable where  $\alpha = 0.97$  at  $p \leq 0.05$ . Data gathering was done by the researchers using a self-administered questionnaire for the study subjects at the Main University Hospital.

A written approval had taken from both faculties management to gather data of the study. Also, a pilot study was conducted on 10% (20 students) that were not included in the study subjects to evaluate the clarity and applicability of the tool, as well as identify problems that may make a barrier for collecting the data. Additionally, the questionnaire reliability was tested using Cronbach's alpha coefficient test in order to measure the tool' internal consistency. The questionnaire was proved reliable where  $\alpha = 0.970$  at  $p \leq 0.05$ . Data collection was gathered by the researchers using a self-administered questionnaire for the study subjects' at their faculties. It took a time period from April to June 2018.

**Statistical analysis of the data**

Data were entered to the computer and analyzed using IBM SPSS software package version 20. Qualitative data were presented using number and percent and quantitative data were presented using range (minimum and maximum), mean, standard deviation. The study results' significance was judged at the 5% level. Pearson coefficient test was utilized in order to correlate between two normally distributed quantitative variables.

**Ethical considerations**

An agreement was acquired from the Main University Hospital Administrators. Data confidentiality and privacy were preserved and ensured by getting informed consent of the study subjects' for engagement in the research before data gathering. Staff nurses' anonymity was considered.

**III. Results**

The results of the study revealed that more than half of nurses (53.1%) were in the age group 25 – < 30 years, the majority of them had Baccalaureate Degree and Technical Institute of Nursing (52.2% and 39.9%) respectively. Nurses working in a hospital unit, Medical, Surgical and Critical Care constitute (23.7%, 10.5%, and 65.8%) respectively. As for Years of experience, (51.8%) of nurses had less than 5 years, while (48.2%) of them had 5 years and more of experience.

**Table 1: Demographic Data of Nurses Working at Main University Hospital (n = 228)**

Demographic Data	No.	%
<b>Age:</b>		
- 18 – < 25 years	70	30.7
- 25 – < 30 years	121	53.1
- 30 years and more	37	16.2

Demographic Data	No.	%
<b>Educational level:</b>		
-Technical Secondary School of Nursing	10	4.4
-Technical Institute of Nursing	91	39.9
-Baccalaureate Degree	119	52.2
-Others	8	3.5
<b>Working unit:</b>		
- Medical	54	23.7
- Surgical	24	10.5
- Critical Care	150	65.8
<b>Years of experience:</b>		
- < 5 years	118	51.8
- 5 years and more	110	48.2

In relation to nurses' readiness for quality improvement, the study revealed that the highest mean score was for quality and customers' needs and wants common understanding ( $84.58 \pm 9.82$ ), while, the lowest mean score was for Use of data in decision-making ( $82.84 \pm 7.57$ ).

**Table 2: Descriptive analysis of nursing staff according to their readiness for quality improvement at the Main University Hospital (n = 228)**

Readiness for Quality Improvement	Min. – Max.	Mean ± SD.
1. Internal customer (employee) focus and use of team process	72.50 – 95.0	82.85 ± 5.27
2. Understanding of process	68.75 – 100.0	83.50 ± 7.77
3. Use of data in decision-making	68.75 – 100.0	82.84 ± 7.57
4. Common understanding of quality and customers' needs and wants	50.0 – 100.0	84.58 ± 9.82
5. Management's opportunity to lead CQI	68.75 – 100.0	83.42 ± 8.21
<b>Total</b>	<b>72.0 – 90.0</b>	<b>83.25 ± 4.57</b>

Results clarified that the highest mean score in Internal customer (employee) focus and use of team process dimension were for I have opportunities to learn new things that will help me improve my work ( $4.55 \pm 0.50$ ). while the lowest mean score was for I have the materials and equipment I need to do my work well ( $4.18 \pm 0.44$ ). As for Understanding of process, the highest mean score was for Overall, I am motivated to find ways to improve the way I do my work. ( $4.37 \pm 0.52$ ), When something goes wrong, we look at the way we do our work rather than blaming people. ( $4.30 \pm .50$ ) had the lowest mean score. The responses of nurses regarding Use of data in decision-making dimension was ( $4.45 \pm 0.50$ ) for Overall our use of information helps us improve the way we do our work, while, it was ( $4.14 \pm 0.53$ ) for I know how to measure the quality of my work. In relation to Common understanding of quality and customers' needs and wants and Management's opportunity to lead CQI, the highest mean scores were for Overall, meeting the expectations of our residents and families is a top priority here and Our leaders are just as concerned about the quality of services as they are about financial results. ( $4.45 \pm 0.50$  &  $4.50 \pm 0.50$ ) respectively.

**Table 3: Mean distribution of readiness for quality improvement among nursing staff at Alexandria Main University Hospital (n = 228)**

Readiness for Quality Improvement	Min. – Max.	Mean ± SD.
<b>Internal customer (employee) focus and use of team process</b>		
I know what is expected of me at work.	4.0 – 5.0	4.21 ± 0.41
I have the materials and equipment I need to do my work well.	3.0 – 5.0	4.18 ± 0.44
In the last seven days, I have received praise for doing good work.	2.0 – 5.0	4.18 ± 0.63
Someone at work encourages me to develop my skills.	3.0 – 5.0	4.40 ± 0.53
I receive the information I need to do my job well.	4.0 – 5.0	4.33 ± 0.47
Our employees cooperate and work as a team.	3.0 – 5.0	4.26 ± 0.49
We are encouraged to work with staff in other departments to solve problems.	3.0 – 5.0	4.32 ± 0.51
My supervisor respects my opinion.	4.0 – 5.0	4.44 ± 0.50
I have opportunities to learn new things that will help me improve my work.	4.0 – 5.0	4.55 ± 0.50
Overall, the leaders in this facility care about me.	3.0 – 5.0	4.26 ± 0.48
<b>Understanding of process</b>		
When something goes wrong, we look at the way we do our work rather than blaming people.	3.0 – 5.0	4.30 ± .50
The work assignments are well planned in my department.	4.0 – 5.0	4.32 ± 0.47
We are encouraged to apply better methods for doing our work when we learn about them.	4.0 – 5.0	4.37 ± 0.48
Overall, I am motivated to find ways to improve the way I do my work.	3.0 – 5.0	4.37 ± 0.52

Readiness for Quality Improvement	Min. – Max.	Mean ± SD.
<b>Use of data in decision-making</b>		
I know how to measure the quality of my work.	3.0 – 5.0	4.14 ± 0.53
I know how to analyze (review) the quality of my work to see if changes are needed.	4.0 – 5.0	4.35 ± 0.48
We usually study the cause of problems before making a change.	3.0 – 5.0	4.31 ± 0.51
Overall, our use of information helps us improve the way we do our work.	4.0 – 5.0	4.45 ± 0.50
<b>Common understanding of quality and customers' needs and wants</b>		
Quality improvement is a sincere effort at this facility rather than just talk.	4.0 – 5.0	4.36 ± 0.48
I am encouraged to solve problems brought to me by my customers (residents, families, or other employees).	3.0 – 5.0	4.22 ± 0.47
Overall, meeting the expectations of our residents and families is a top priority here.	2.0 – 5.0	4.56 ± 0.65
<b>Management's opportunity to lead CQI</b>		
Our leaders are just as concerned about the quality of services as they are about financial results.	4.0 – 5.0	4.50 ± 0.50
Our leaders are able to make their own decisions rather than depending on people outside of our facility.	4.0 – 5.0	4.40 ± 0.49
We seldom have crisis situations at this facility.	3.0 – 5.0	4.06 ± 0.54
Overall, the facility managers have the ability to lead us to higher levels of quality performance.	4.0 – 5.0	4.39 ± 0.49

The results showed that the highest mean score for nurses' attitude toward safety was for Job satisfaction and Stress recognition ( $47.76 \pm 10.19$  &  $47.45 \pm 11.41$ ) respectively. While Teamwork climate and Working conditions had the lowest mean score ( $41.03 \pm 8.51$  &  $41.94 \pm 11.52$ ) respectively.

**Table 4: Descriptive analysis of the nursing staff according to their safety attitude (n = 228)**

Safety Attitude Dimensions	Mean ± SD.
1. Teamwork climate	41.03 ± 8.51
2. Safety climate	44.22 ± 9.55
3. Job satisfaction	47.76 ± 10.19
4. Stress recognition	47.45 ± 11.41
5. Perceptions of management	45.94 ± 13.70
6. Working conditions	41.94 ± 11.52
<b>Total</b>	<b>52.22 ± 5.59</b>

The study revealed that the highest mean score for Teamwork climate dimension was for “In this hospital, it is difficult to speak up if I perceive a problem with patient care” ( $3.07 \pm 0.79$ ). “In this hospital, it is difficult to discuss errors item” had the highest mean score ( $3.17 \pm 1.05$ ) in safety climate dimension. The highest mean score in Job satisfaction and Stress recognition dimensions were for “This hospital is a good place to work” and Fatigue impairs my performance during emergency situations (eg, emergency resuscitation, seizure) ( $3.25 \pm 0.96$  &  $3.01 \pm 1.07$ ) respectively. Regarding Perceptions of management, “The hospital administration supports my daily efforts” had the highest mean score ( $3.10 \pm 0.94$ ) and as for Working conditions the nurses’ responses had the highest mean score in “Trainees in my discipline are adequately supervised” ( $2.90 \pm 0.68$ ).

**Table 5: Mean distribution of the studied cases according to the Safety Attitudes Questionnaire (SAQ) item descriptions (n=228)**

Safety Attitudes Questionnaire (SAQ)	Min. – Max.	Mean ± SD.
<b>Teamwork climate</b>		
Nurse input is well received in this hospital	1.0 – 4.0	1.79±0.82
In this hospital, it is difficult to speak up if I perceive a problem with patient care	2.0 – 5.0	3.07 ± 0.79
Disagreements in this hospital are resolved appropriately (ie, not by who is right but by what is best for the patient)	1.0 – 5.0	2.46 ± 0.86
I have the support I need from other person to care for patients	1.0 – 5.0	2.71 ± 0.78
It is easy for personnel in this hospital to ask questions when there is something that they do not understand	1.0 – 5.0	2.87 ± 0.90
The physicians and nurses here work together as a well-coordinated team	1.0 – 5.0	2.93 ± 0.90
<b>Safety climate</b>		
I would feel safe being treated here as a patient	1.0 – 4.0	2.48 ± 0.75
Medical errors are handled appropriately in this hospital	1.0 – 5.0	2.52 ± 1.22
I know the proper channels to direct questions regarding patient safety in this hospital.	1.0 – 5.0	2.71 ± 1.06
I receive appropriate feedback about my performance	1.0 – 5.0	2.93 ± 0.95
In this hospital, it is difficult to discuss errors	1.0 – 5.0	3.17 ± 1.05

Safety Attitudes Questionnaire (SAQ)	Min. – Max.	Mean ± SD.
I am encouraged by my colleagues to report any patient safety concerns I may have.	1.0 – 5.0	2.73 ± 0.94
The culture in this hospital makes it easy to learn from the errors of others	1.0 – 5.0	2.85 ± 0.86
<b>Job satisfaction</b>		
I like my job	1.0 – 5.0	2.81 ± 0.83
Working in this hospital is like being part of a large family	1.0 – 4.0	3.0 ± 0.84
This hospital is a good place to work	1.0 – 5.0	3.25 ± 0.96
I am proud to work at this hospital	1.0 – 4.0	2.73 ± 0.87
Morale in this hospital area is high	1.0 – 4.0	2.76 ± 0.91
<b>Stress recognition</b>		
When my workload becomes excessive, my performance is impaired	1.0 – 5.0	2.82 ± 0.99
I am less effective at work when fatigued	1.0 – 5.0	2.93 ± 0.92
I am more likely to make errors in tense or hostile situations	1.0 – 5.0	2.82 ± 0.94
Fatigue impairs my performance during emergency situations (eg, emergency resuscitation, seizure).	1.0 – 5.0	3.01 ± 1.07
<b>Perceptions of management</b>		
The hospital administration supports my daily efforts	1.0 – 5.0	3.10 ± 0.94
The hospital management does not knowingly compromise the safety of patients	1.0 – 5.0	2.99 ± 1.18
This hospital constructively addresses problem physicians and employees	1.0 – 5.0	2.83 ± 1.01
I receive adequate, timely information about events in the hospital that might affect	1.0 – 5.0	2.43 ± 0.99
<b>Working conditions</b>		
The levels of staffing in this clinical area are sufficient to handle the number of patients	1.0 – 5.0	2.74 ± 0.99
This hospital does a good job of training new personnel	1.0 – 4.0	2.51 ± 0.93
All of the necessary information for diagnostic and therapeutic decisions is routinely available to me	1.0 – 5.0	2.57 ± 0.95
Trainees in my discipline are adequately supervised	1.0 – 5.0	2.90 ± 0.68

Regarding the correlation between the study's variables, it was found that there was a highly statistical difference between all dimensions of nurses' safety attitude with quality improvement readiness dimensions.

**Table 6: Correlation between nurses' Safety Attitude with Quality Improvement Readiness dimensions in Main University Hospital (n = 228)**

Readiness for Quality Improvement		Safety Attitude						Overall SA
		Teamwork climate	Safety climate	Job satisfaction	Stress recognition	Perceptions of management	Working conditions	
Internal customer (employee) focus and use of team process	r	0.532	0.441	0.357	0.397	0.467	0.445	0.803
	p	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*
Understanding of process	r	0.312	0.237	0.340	0.290	0.411	0.275	0.563
	p	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*
Use of data in decision-making	r	0.340	0.217	0.423	0.348	0.378	0.325	0.606
	p	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*
Common understanding of quality and customers' needs and wants	r	0.229	0.346	0.241	0.141	0.275	0.197	0.449
	p	<0.001*	<0.001*	<0.001*	0.033*	<0.001*	0.003*	<0.001*
Management's opportunity to lead QI	r	0.329	0.336	0.371	0.247	0.369	0.300	0.598
	p	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*
Overall RQI	r	0.573	0.511	0.538	0.461	0.604	0.502	0.971
	p	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*

r: Pearson coefficient

\*: Statistically significant at p ≤ 0.05

#### IV. Discussion

The research study showed a positive significant relation between overall nurses' safety attitude and their readiness for quality improvement. In the same line, Institute of Medicine (2003)<sup>(18)</sup> found in a study done in Washington about health professions education: A bridge to quality, that the safety and quality improvement are collective competencies for health care providers as well as health professions, to deliver patient care based on evidence-based practice, clear standard, information systems, inter-disciplinary teams. Allen (2016)<sup>(19)</sup> added that healthcare requires to address good practice, high

experiences and utilizing new technologies for maintaining safety and quality environment. On the other hand, Silverman (2013)<sup>(20)</sup> stated that the quality and safety standards are settled in nursing curricula but have not yet been generalized around the world.

Also, the study revealed that managing stress, job satisfaction, and teamwork are the main professionals' factors that maintain high-quality care and safety climate. In this respect, Brasaitte et al (2016)<sup>(21)</sup> illustrated that participants' levels of job satisfaction had positive safety attitudes. Gluyas (2015)<sup>(22)</sup> mentioned some important predictors that help in applying safety measures as work management and actions conditions. In the light of this results, Patel & Wu AW (2016)<sup>(23)</sup> found a positive correlation between teamwork with patient safety atmosphere. Abrahamson et al (2016)<sup>(24)</sup> illustrated that a high quality of patient care depends on certain factors included adequate staffing, organizational support for gaining patients' satisfaction and work in a team.

It was found that there was a highly significant difference between nurses' readiness for quality improvement and the use of data in decision-making, effective training, and good working condition and its relation to enhancement of safety atmosphere. In the line of this, Aiken (2014)<sup>(4)</sup> stated that the degree of awareness, knowledge, and information enable individual to make a proper decision in an exact time which reflects on quality outcomes. Moreover, Gillespie (2010)<sup>(25)</sup> clarified using different strategies and approaches to support decision making in clinical areas had a positive relationship with provided care for patients which in turn reflected on the level of quality care. Motola (2013)<sup>(26)</sup> explained a successful and supportive environment and high-quality care are characterized by good clinical judgments, effective guidance and improving nurses' performance by implementing training programs. Also, a positive correlation between reporting system and nurses' satisfaction with their working environment.

## **V. Conclusion**

The present study concluded that nurses' safety attitude had a positive relationship with their readiness for all dimensions of quality improvement. As regards safety attitude, nurses' responses had the highest mean score for both job satisfaction and stress recognition dimensions. While the highest mean score for nurses' readiness for quality improvement was related to the data utilization in decision-making and quality and customers' needs and wants common understanding dimensions.

## **Recommendation**

The study recommended that:

1. Managers should keep in track for changing nurses' attitude toward quality as a worthy goal, notify them with a clear and constant standard of care to be familiar with and engaged them in all steps of the quality cycle to be responsible for quality outcomes.
2. Educate nurses and improving their knowledge about the importance of reporting process in order to maintain the safe environment.
3. Provide adequate training for nurses according to their demands, supervise them in clinical areas to ensure the impact of these training on safety climate and quality of care given.
4. In order to maintain unity, collaboration, and cooperation, it was suggested to conduct further study to examine all healthcare providers' safety attitudes and its relation to their readiness for continuous quality improvement.

## **References**

- [1]. Stoddart G, Evans R. Producing health, consuming health care. Why are some people healthy and others not?: Routledge; 2017. p. 27-64.
- [2]. Guldenmund FW. (Mis) understanding safety culture and its relationship to safety management. *Risk Analysis: An International Journal*. 2010;30(10):1466-80.
- [3]. Grol R, et al. Improving patient care: the implementation of change in health care: John Wiley & Sons; 2013.
- [4]. Aiken LH, et al. Nurse staffing and education and hospital mortality in nine European countries: a retrospective observational study. *The Lancet*. 2014;383(9931):1824-30.
- [5]. Ross AC, et al. The 2011 report on dietary reference intakes for calcium and vitamin D from the Institute of Medicine: what clinicians need to know. *The Journal of Clinical Endocrinology & Metabolism*. 2011;96(1):53-8.
- [6]. Ogrinc G, et al. SQUIRE 2.0 (Standards for QUality Improvement Reporting Excellence): revised publication guidelines from a detailed consensus process. *The Journal of Continuing Education in Nursing*. 2015;46(11):501-7.
- [7]. Nelson EC, et al. Quality by design: a clinical microsystems approach: John Wiley & Sons; 2011.
- [8]. Anderson J, et al. Implementing resilience engineering for healthcare quality improvement using the CARE model: a feasibility study protocol. *Pilot and feasibility studies*. 2016;2(1):61.
- [9]. Berlinger N. Are Workarounds Ethical?: Managing Moral Problems in Health Care Systems: Oxford University Press; 2016.
- [10]. Ting S, et al. Critical elements and lessons learnt from the implementation of an RFID-enabled healthcare management system in a medical organization. *Journal of medical systems*. 2011;35(4):657-69.
- [11]. Suellflow E. Systematic literature review: An analysis of administrative strategies to engage providers in hospital quality initiatives. *Health Policy and Technology*. 2016;5(1):2-17.
- [12]. DIXON- WOODS M, et al. Explaining Michigan: developing an ex post theory of a quality improvement program. *The Milbank quarterly*. 2011;89(2):167-205.

- [13]. Weller J, et al. Teams, tribes and patient safety: overcoming barriers to effective teamwork in healthcare. *Postgraduate medical journal*. 2014;90(1061):149-54.
- [14]. Braithwaite J, et al. Resilient health care: turning patient safety on its head. *International Journal for Quality in Health Care*. 2015;27(5):418-20.
- [15]. Wears RL, et al. *Resilient health care*: Ashgate Publishing, Ltd.; 2015.
- [16]. Sexton JB, et al. The Safety Attitudes Questionnaire: psychometric properties, benchmarking data, and emerging research. *BMC health services research*. 2006;6(1):44.
- [17]. Dana B. *Continuous Quality Improvement (CQI) Climate Survey Process and Tool*. Project Developed for American Health Association and National Center for Assisted Living. 2010:10-1.
- [18]. *Century IoMCoAtHotPits. The Future of the Public's Health in the 21st Century*: National Academy Press; 2003.
- [19]. Allen BP, et al. Observation of gravitational waves from a binary black hole merger. *Physical review letters*. 2016;116(6):061102.
- [20]. Silverman D. *Doing qualitative research: A practical handbook*: SAGE Publications Limited; 2013.
- [21]. Brasaitte I, et al. Health care professionals' attitudes regarding patient safety: cross-sectional survey. *BMC research notes*. 2016;9(1):177.
- [22]. Gluyas H. Effective communication and teamwork promotes patient safety. *Nursing Standard (2014+)*. 2015;29(49):50.
- [23]. Patel S, Wu AW. Safety Culture in Indian Hospitals: a cultural adaptation of the safety attitudes questionnaire. *Journal of patient safety*. 2016;12(2):75-81.
- [24]. Abrahamson S, et al. The critical care management of spontaneous intracranial hemorrhage: a contemporary review. *Critical Care*. 2016;20(1):272.
- [25]. Gillespie T. The politics of 'platforms'. *New media & society*. 2010;12(3):347-64.
- [26]. Motola I, et al. Simulation in healthcare education: a best evidence practical guide. *AMEE Guide No. 82. Medical Teacher*. 2013;35(10):e1511-e30.