

Nurses' Perception about Patients' Safety Culture in Mosul City

*Tameem Thamir Mayouf **

ABSTRACT

Background and Aim: Perception of patients' safety cultures is fundamental in the process of improving patient care. The presence of many disciplines in healthcare organizations has necessitated the inclusion of the viewpoints of all workers from managers to technicians. The study aimed to assess the nurses' perception about patient's safety culture.

Materials and method: cross sectional (descriptive) design was selected for this study, 125 nurses was participated in the study who work in different health departments: wards, emergency unit, intensive care units, operating room. The study was carried out from (1st November 2013 to 10th April 2014), Likert-type response scales was adopted to measure the nurses' perception about patient safety, which consist of two parts, part one covered the demographic data for nurses (Age, Gender, educational level, years of experiences, work time and workplace). Part two; assessed the nurses' perception, consists of four sections covered work area, supervisor relationship, communications and frequency of events reported.

Results: The findings indicated that nurses were more positive about overall perceptions of safety, teamwork within units and supervisor expectations and actions promoting, while 69.6% of event reporting, and 55.6% for communication dimensions was negatively response among nurses' perception. Nurses' age, educational level and workplace, were not significantly associated with their perception regarding overall perceptions of patient safety dimension, only nurses' age was significantly associated with their perception regarding frequency of event reporting.

Conclusion: The majority of nurses had positive responses toward teamwork within units. While most of the sample has negative responses toward frequency of events reporting, about half of nurses has positive responses to patient safety culture toward; overall perception of safety, communications openness, non-punitive responses to errors and staffing dimensions.

Recommendation: the study recommended to encourage the reporting action, which can prevent certain errors from happening and improve patient's safety concept in nurses.

Keyword: Perception, Culture, Patients' safety culture, nurses.

INTRODUCTION

Patient's safety is defined as avoidance and prevention of patient injuries or adverse events resulting from the processes of health care delivery (Hospital survey on patient safety culture, 2012). Perception of patient safety cultures is fundamental in the process of improving patient care. The presence of many disciplines in healthcare organizations has necessitated the inclusion of the viewpoints of all workers, from managers to technicians. (Hughes and Ortiz, 2005. P 14)

Safety culture has considered as an important factor in improving patient safety. Therefore, identifying individual and organizational factors affecting safety culture is crucial. One of the factors that can affect patient safety in health organizations is patient safety culture (Anderson, 2006, P.39)

Safety culture is defined by the Agency for Healthcare Research and Quality (AHRQ) as "group values, attitudes, perceptions, competencies, and behaviors influencing performance of organizations with respect to safety" (Sorra and Nieva, 2004, p.1).

A safety culture is broadly described as a set of shared values, beliefs, norms, and attitudes that interact with an organization's structure and control systems to produce behavioral norms (Perrow, 2004).

Perceptions of safety culture have been consistently linked to the status of the worker within and across organization structures in multiple settings (Sorra et al, 2008). The study aims to assess nurses perception about patient safety culture.

MATERIALS AND METHOD

A non-experimental, cross sectional (descriptive) design was applied to achieve the objective of the study. The study was carried out from (1st November 2013 to 10th June 2014). The data were collected from 1st December 2013 to 30th April 2014. The study was carried out in six hospitals including; Al-jumhorri teaching hospital, Al-Khansaa pediatric and maternity hospital, Ibn Sena Teaching Hospital, Ibn Al-Ather Teaching hospital, Al-Mosul Genral Hospital and Oncology Hospital. The target population of study is approximately (1125) nurses served in mentioned hospitals; Sample

* Assistant Lecturer / College of Nursing / University of Mosul .

size calculation was done through power analysis. Non-probability simple random (Convenience) sampling technique was adopted in the study. The sample size was estimated to be 10% of the target population, which is (125) nurses who work in different health departments: wards, emergency unit, intensive care units, operating room). The questionnaire was obtained from the study of “Nursing Perceptions of Patient Safety at Hamad Medical Corporation in the emarah of Qatar” permission of using this tool is sent by E-mail from Dr. Moza Latif AL-Ishaq and Dr. Helena Tuite. The instruments of the study were composed of two parts. Part one covered demographic characteristics of the nurses, including (age, gender, education level, years of experiences, work time and shifting time of work). Five points Likert-type response scales

was adopted to measure the nurses’ perception about patient safety, it consists of thirty-eight items, divided into four sections: work area, nurses supervisor, communications and frequency of events reported. Items were scored on a five point Likert-type response scales, responses’ scored was ranging from 1 = “strongly disagree”, 2 = “disagree”, 3 = “neither”, 4 = “agree” and 5 = “strongly agree”. Reliability of the study tools was determined by using of split half approach of the computation of Cronbach Alpha Correlation coefficients = (0.88). Prior to data collection, official permission was obtained from the Ministry of Health/ Department of Planning and Health Research Committee. Data are prepared and entered into a computer files; Statistical Package for the Social Science (SPSS, version 21) is used for data analysis.

RESULTS

Table (1): Demographic Characteristics of the Study Sample.

| Variables | | No. | % |
|-------------------|---------------------|-----|------|
| Age | Less than 20 years | 7 | 5.6 |
| | 20-29 Years | 51 | 40.8 |
| | 30-39 Years | 49 | 39.2 |
| | 40-49 Years | 18 | 14.4 |
| Total | | 125 | 100 |
| Gender | Male | 65 | 52 |
| | Female | 60 | 48 |
| Total | | 125 | 100 |
| Years of Services | Less Than 10 Years | 83 | 66.4 |
| | 10-19 Years | 25 | 20 |
| | 20-29 Years | 14 | 11.2 |
| | 30-39 Years | 3 | 2.4 |
| Total | | 125 | 100 |
| Educational level | Nursing high school | 49 | 39.2 |
| | Institute | 40 | 32 |
| | College | 36 | 28.8 |
| Total | | 125 | 100 |

Table (2): Nurses’ Perception of Patient Safety culture dimensions (n=125).

| Safety culture dimensions | Positive % | Negative % | Mean | SD |
|---|------------|------------|------|------|
| Overall Perceptions of Safety. | 54.8 | 45.2 | 3.39 | 1.08 |
| Frequency of Events Reporting. | 30.4 | 69.6 | 2.97 | 1.08 |
| Supervisor Expectations and Actions Promoting Patient Safety. | 62.4 | 37.6 | 3.51 | 1.07 |
| Team Work within Units. | 84.8 | 15.2 | 4.12 | 0.85 |
| Communications Openness; Feedback and Communications about Error. | 44.4 | 55.6 | 3.32 | 1.23 |
| Non-punitive Response to Error. | 51.4 | 48.6 | 3.32 | 1.08 |
| Staffing. | 55 | 45 | 3.45 | 1.15 |
| Organizational learning continuous improvement | 67.7 | 32.3 | 3.70 | 1.05 |

Table (3): Nurses' perception of safety culture dimensions according to their age.

| Safety culture dimensions | Age | | | | | P Value |
|--|--------------------|-------------|-------------|-------------|----------|---------|
| | Less than 20 years | 20-29 Years | 30-39 Years | 40-49 Years | F- value | |
| Overall Perceptions of Safety. | 3.46±0.58 | 3.35± 0.54 | 3.49±0.52 | 3.19±0.61 | 3.452 | .023 |
| Frequency of Events Reporting. | 3.09±1.19 | 2.86±0.92 | 3.24±0.85 | 2.48±0.89 | 3.488 | .018 |
| Supervisor Expectations. | 3.57±.09 | 3.38±.84 | 3.68±.00 | 3.34±1.1 | 1.599 | .193 |
| Team Work within Units. | 4.17±.49 | 4.0±.73 | 4.22±.72 | 4.15±.49 | 1.035 | .380 |
| Communications Openness. | 3.92±.77 | 3.30±.73 | 3.37±.09 | 3.01±.78 | 3.607 | .015 |
| Non-punitive Response to Error. | 3.80±.81 | 3.20±.84 | 3.38±.70 | 3.33±.72 | 1.531 | .210 |
| Staffing. | 3.53±.80 | 3.40±.07 | 3.53±.71 | 3.36±.07 | .573 | .634 |
| Organizational learning continuous improvement | 3.85±.70 | 3.61±.70 | 3.83±.00 | 3.55±.84 | 1.450 | .232 |

P 0.05 at 5% level denotes a significant difference

Table (4): Nurses' perception of safety culture dimensions according to their years of services.

| Safety culture dimensions | Years of services | | | | F- value | P Value |
|--|--------------------|-------------|-------------|-------------|----------|---------|
| | Less than 10 years | 10-19 Years | 20-29 Years | 29-39 Years | | |
| Overall Perceptions of Safety. | 3.41±0.52 | 3.43±0.55 | 3.21±0.73 | 3.41±0.52 | 0.555 | 0.645 |
| Frequency of Events Reporting. | 2.99±0.94 | 2.97±0.92 | 3.07±0.79 | 1.88±1.01 | 1.428086 | 0.237 |
| Supervisor Expectations. | 3.45±0.73 | 3.81±0.77 | 3.32±0.90 | 3.33±1.01 | 1.733703 | .163 |
| Team Work within Units. | 4.11±0.62 | 4.29±0.57 | 3.89±0.90 | 4.00±0.25 | 1.182207 | 0.319 |
| Communications Openness. | 3.31±0.67 | 3.56±0.47 | 3.05±0.76 | 2.94±0.38 | 2.256145 | 0.049 |
| Non-punitive Response to Error. | 3.30±0.81 | 3.66±0.57 | 3.10±0.53 | 3.25±0.19 | .210620 | 0.885 |
| Staffing. | 3.45±0.60 | 3.66±0.57 | 3.10±0.53 | 3.25±0.25 | 2.762180 | .040 |
| Organizational learning continuous improvement | 3.69±0.60 | 3.84±0.72 | 3.54±0.81 | 3.77±0.38 | .747902 | .080 |

P 0.05 at 5% level denotes a significant difference

Table (5): Nurses' perception of safety culture dimensions according to their Educational level.

| Safety culture dimensions | Educational level | | | F- value | P Value |
|--|---------------------|-----------|-----------|----------|---------|
| | Nursing junior high | Institute | College | | |
| Overall Perceptions of Safety. | 3.39±.72 | 3.42±.02 | 3.36±.00 | 2.241 | 0.047 |
| Frequency of Events Reporting. | 3.00±1.04 | 2.98±.86 | 2.91±.89 | 0.108 | 0.955 |
| Supervisor Expectations. | 3.45±.82 | 3.57±.70 | 3.55±.11 | 2.478 | 0.033 |
| Team Work within Units. | 4.07±.72 | 4.31±.46 | 3.96±.78 | 2.840 | 0.015 |
| Communications Openness. | 3.28±.77 | 3.43±.77 | 3.29±.07 | 1.900 | 0.133 |
| Non-punitive Response to Error. | 3.20±.83 | 3.47±.00 | 3.29±.83 | 2.704 | 0.019 |
| Staffing. | 3.46±.72 | 3.51±.03 | 3.37±.76 | 0.347 | 0.790 |
| Organizational learning continuous improvement | 3.68±.79 | 3.75±.02 | 3.68±.088 | 0.161 | 0.922 |

P 0.05 at 5% level denotes a significant difference

Table (6): Nurses' perception of safety culture dimensions according to their gender.

| Safety culture dimensions | Gender | | | |
|---|-----------|-----------|----------|---------|
| | Male | Female | t- value | P Value |
| Overall Perceptions of Safety. | 3.32±0.71 | 3.47±0.48 | -1.5001 | 0.195 |
| Frequency of Events Reporting. | 3.06±0.94 | 2.87±0.91 | 1.1635 | 0.542 |
| Supervisor Expectations. | 3.31±0.90 | 3.72±0.52 | -3.0172 | 0.000 |
| Team Work within Units. | 3.95±0.67 | 4.30±0.56 | -3.083 | 0.013 |
| Communications Openness. | 3.15±0.65 | 3.50±0.60 | -3.1287 | 0.024 |
| Non-punitive Response to Error. | 3.30±0.70 | 3.35±0.81 | -0.3109 | 0.180 |
| Staffing. | 3.34±0.58 | 3.57±0.59 | -2.1954 | 0.963 |
| Organizational learning, continuous improvement | 3.66±0.68 | 3.75±0.61 | -0.8036 | 0.831 |

P 0.05 at 5 % level denotes a significant difference

DISCUSSION

The mean age for nurses was 29.8±4.68 years with the majority of them in the age group 20-29 Years, this finding was similar to the study by (Mahbubeh *et. al.*, 2013) which present that the mean age of participants was 28 years, ranging from 23 to 46 years. However, different result by (Hala and kamilia; 2010) which revealed that 41.2 % of the study sample, was aged more than 40 years.

The study show that 66.4% of nurses had less than 10 years of experience, similar result revealed by (Fotouh *et. al.*, 2012) that 65.1% of nurses had a duration of experience less than 5 years.

The overall positive response of the study sample for the Overall Perceptions of Patient Safety dimension was 54.8% (table2), this result is consistent with previous study of (Moza, 2008) that indicated that 63% of the nurses' response was positively regarding Overall Perceptions of Patient Safety dimension. On the contrary the study of Factors Affecting Patient Safety Culture in a Tertiary Care Hospital in Sri Lanka by (Amarapathy *et. al.*, 2013) that indicate 81.3 % of nurses' responses regarding Overall perception of patient safety were positive.

Nurses' age and educational level, was significantly associated with their perception regarding overall perceptions of patient safety dimension, a similar study by (Deleise, 2011) found a significant relationship between positive response by the charge nurse to overall perception of safety and their age and experience, while not significantly related with nurses experiences, shift work and gender. However, a significant relationship between positive responses of nurses with their age and educational qualifications regarding overall safety culture dimension was reported by (Hala and kamilia, 2010).

The result demonstrates that 30.4% of nurses had positive response to frequency of

event reporting (table 2), as well, 33.4% of all participants' responses was positively to adverse event reporting and recording was observed by (Fotouh *et. al.*, 2012). In addition, the same study in Kuwait found that 32% of nurses had positive responses among all staff about frequency of event reporting (Maha *et. al.*, 2011). Although the study that Conducted in Qatar showed that the responses of nurses about frequency of events reporting dimension was 44%. (Moza, 2008).

The study findings present that only nurses' age was significantly associated with their perception regarding frequency of event reporting, this result supported by study of (Deleise, 2011) which found a significant relationship between nurses' positive responses to their age and differ in relationship between nurses' experience and their positive responses to frequency of event reporting.

The result demonstrated that nurses' positive perception regarding supervisor expectations and actions promoting patient safety dimension was 62.4%, this result is strongly in agreement with the study of (Moza, 2008) which demonstrated that 60% positively worded of nurses toward supervisor expectations. Although results of study by (Fotouh *et. al.*; 2012 and Maha *et. al.*, 2011; and Amarapathy *et. al.*, 2013) was reported that positive responses of the study sample toward supervisor expectations were 46.4%, 53%, 73.3% respectively.

The relationship between nurses' positive response to supervisor expectations with their demographical data was not significant except in educational level and gender, (Deleise, 2011) who found that there is no relationship between supervisors' expectations perception and nurses' demographical data supported this result.

The findings in this study about nurses attitude toward team work within units were 84.8%, these findings strongly in agreement with the study of (Amarapathy *et. al.*, 2013) which found 84.8% had a positive response for

teamwork within units, this also similar to the study of (Maha *et. al.*, 2011) who revealed that 82% of the staff had positive responses to team work within the center unit dimension. But not in agreement with the study by (Fotouh *et. al.*, 2012) who demonstrate that 58.1% of participants had positive responses about team work within the units.

Among study sample, there were significant relationships between nurses' perception with their educational level, workplace, shift time and gender, similar result founded by (Hala *et. al.*, 2010) who report that nurses' shift time work significantly associated with their positive perception. While different results observed in the same study that reveal no significant association between nurses' perception and their educational level, and significant relationship with nurses' age. Also, in deference with the study of (Deleise, 2011) that observed no significant relationship between nurses' perception and their demographical data except with years of experiences.

Positive nurses' responses was 44.4% to communications openness, feedback and communications about error (table 3), this result has similarity to study that conducted in Kuwait which found 45% of health staff perception responses was positive to Communications Openness (Maha *et. al.*, 2011), also similar to the study by (Moza, 2008) who found that 50% of positively worded of nurses toward Communications Openness. This result does not in agreement with both studies of (Amarapathy *et. al.*, 2013; and Fotouh *et. al.*, 2012) which revealed that 62.1%, 34.6% of nurses' perception was positive to Communications Openness respectively. There were significant relationship between nurses' perception with their age, years of services, workplace and gender toward communication, openness, this result does not supported by (Deleise, 2011) who report that no significant relationship between demographic data of nurses and the perception of safety. Of the study sample, 51.4% has positive responses toward non-punitive response to error, this result differ from studies that conducted by (Moza 2008) and (Amarapathy *et. al.*, 2013) that revealed 23% and 39.4% of the nurses had positive worded to non-punitive response to error respectively.

Nurses' educational level was significantly associated with their positive perception to non-punitive response in error, similar finding by Deleise (2011) who found that a significant relationship between nurses' shift time work

with their perception to non-punitive response to error. Also, In deference differ to study of Anna *et. al.* (2013) who conducted that a significant relationship between respondents' age and non-punitive response to error perception. 55% of study sample has a positive response to staffing dimensions, similar result by Fotouh *et. al.* (2012) which present 49.3% of all participants have a positive response to staffing dimensions, 48% positive worded was found by Moza (2008), while in the study of Maha *et. al.* (2011), 41% of study sample have a positive response to staffing dimensions. There is sig. relation between years of service & com. Openness and staffing in table5, this result is supported by the study of Anna *et. al.* (2013) which revealed that there were significant relationship between nurses' perception and their Work Experience, while there were no significant positive correlations between nurses' perception toward staffing dimensions and their demographical data.

The positive responses of nurses toward organizational learning were 67.7%, this result runs counter to the results from previous studies that indicate 82.5% by Amarapathy *et. al.* (2013), 75% by Maha *et. al.* (2011) and 78.2% by Fotouh *et. al.* (2012) of nurses' perception was positively regarding organizational improvement. Among study sample, there were no significant relationship between nurses' perception with their demographical data toward organizational improvement, this result is supported by the study in Michigan by Deleise (2011) who conducted that there is no relationship between nurses' perception and their demographical data regarding Organizational learning continuous improvement.

CONCLUSION

The majority of nurses has positive responses toward teamwork within units. While most of the sample has negative responses toward the frequency of events reporting, about half of nurses has positive responses to patient safety culture toward overall perception of safety, communications openness, non-punitive responses to errors and staffing dimensions.

There are significant differences between nurses' perception with their educational level regarding overall perception of safety, supervisor expectations, Teamwork within units and Non-punitive response to error. Whereas, there was no significant differences between nurse' perception with shift time of work except for teamwork within units and staffing.

Gender was significantly associated with nurses' perception about supervisor expectations, Teamwork within units and communication openness dimensions

RECOMMENDATIONS

The study recommended that there are needs to certain training and workshops to improve the nurses' knowledge and perceptions With regard to patients' safety. The study also recommended to encourage the reporting action, which can prevent certain errors from happening and improved patient safety concept in nursing practice. Finally, strengthening and improve communication between the health team and to emphasize the need for feedback about errors that occur during the work and how it contributes to the investigative higher level of patient safety and reduce medical errors.

REFERENCES

- Aboul-Fotouh, A.M.; Ismail, N.A.; Ez Elarab, H.S.; and Wassif. G.O. (2012). Assessment of patient safety culture among health care providers at a teaching hospital in Cairo, Egypt. *Eastern Mediterranean Health Journal*. (18)4.
- Agency for Healthcare Research and Quality [AHRQ]. (2011). Surveys on patient safety culture. In *Agency for Healthcare Research and Quality*.
- Amarapathy, M.; Sridharan, S.; Perera, R.; and Handa, Y. (2013). Factors Affecting Patient Safety Culture in A Tertiary Care Hospital In Sri Lanka. *International Journal of Scientific and Technology Research*. 2 (3). P.p. 175-177.
- Anderson DJ. (2006). Creating a culture of safety: Leadership, teams, and tools. *Nurse Leader*. 4(5): 38-41.
- Anna, N.; Kersti, T.; Bodil, W.; and Gun, N. (2013). Health care staffs' perception of patient safety culture in hospital settings and factors of importance for this. *Open Journal of Nursing*. 3 (2013) 28-40
- Deleise, S. W. (2011). Registered Nurses' Perceptions of Patient Safety Culture: The Influence of Nursing Unit Leadership. *Doctor of Philosophy (Nursing) in the University of Michigan*. P.p. 36-54
- Deleise, W.; Richard, W. R.; Akke, N. T.; and Michelle, A. (2011). Differences in Perceptions of Patient Safety Culture between Charge and Non-charge Nurses: Implications for Effectiveness Outcomes Research. *Hindawi Publishing Corporation Nursing Research and Practice*. 7.
- Hala, A.; and Kamilia, M. S. (2011). A Baseline Assessment of Patient Safety Culture among Nurses at Student University Hospital. *World Journal of Medical Sciences*. 6 (1). P.p. 17-26
- Hospital survey on patient safety culture. *The Patient Safety Group*. Retrieved from (<http://www.patientsafetygroup.org/survey/index.cfm?sample=1>), accessed on 18 January 2012).
- Hughes, R.; and Ortiz, E. (2005). Medication errors: Why they happen, and how they can be prevented. *Journal of Infusion Nursing*. 28(2).P.p.14-24.
- Maha, M. G.; Hanan, A. G.; Hanan, M.; and Fatma, A. (2011). Assessment of Patient Safety Culture in Primary Health Care Settings in Kuwait. *DOI*, 10.2424/9101.
- Mahbubeh, Z.; Fariba, E.; Kobra, F.; and Hossien, Z. (2013). Patient Safety Culture: Nurses' Attitude in Marvdasht Shahid Motahary Hospital, 1392. *Patient Saf Qual Improv*. 2(1), 53-57.
- Moza, A. L. (2008). *Nursing Perceptions of Patient Safety at Hamad Medical Corporation in the State of Qatar*. Doctor of Philosophy School of Nursing, Indiana University. P.p. 46- 56.
- Perrow, C. (2004). *The normal accident; Living with high-risk technologies*. Basic Books: NY.
- Sorra, J. S.; and Nieva, V. F. (2004). Hospital Survey on Patient Safety Culture. *Agency for Healthcare Research and Quality Publication*. Rockville,MD.4(41). P.p.1-3.
- Sorra, J. S.; Famolaro, T.; Dyer, N.; Nelson, D.; and Khanna, K. (2008). Hospital Survey on Patient Safety Culture comparative database report. *Agency for Healthcare Research and Quality Publication* Rockville, MD. 8-(39). P.p.1-12.