

Perceptions of Patient Safety Competence among Undergraduate Nursing Students

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Abstract:

Patient safety is freedom from healthcare-associated, preventable harm. To maintain or improve patient safety, error has to be prevented, rectified or at least minimized. **Aim of the study** is to determine the perception of patient safety competence among under graduate nursing students. A descriptive **research design** was used. **Setting:** Faculty of Nursing Menoufiya University. **Sample:** convenient sample of 120 fourth year nursing students. **Tool for data collection:** Health Professional Education in Patient Safety Survey (H-PEPSS). **Results:** nursing students have moderately competent related to domain of patients safety, There were statistical significant differences between learning in class room and leaning clinical setting related to culture of safety and the total specific patient safety content areas. The mean score is higher in clinical area than in class room. **Conclusion:** Nursing students have moderate level of competence related to patient safety. **Recommendation:** patient safety issues must be included in the curricula of undergraduate nursing students.

Introduction:

Patient safety is a new health care discipline that emphasizes the reporting, analysis and prevention of medical error that often leads to adverse health care events. Also it is a critical aspect of high quality health care. Nurses heavily influence patient care quality and safety (1). Unexpected and unwanted

events can take place in any setting where health care is delivered (primary, secondary and tertiary care, community care, social and private care, acute and chronic care). 10 % of patients in Europe experiences preventable harm or adverse events in hospital,

causing suffering and loss for the Patient, their families and health care providers, and taking a high financial toll on health care systems (2).

Patient safety is defined as the reduction and mitigation of unsafe acts within the health care system, as well as through the use of best practices shown to lead to optimal patient outcomes (3) & (20). Also it is the avoidance, prevention, and amelioration of adverse outcomes or injuries stemming from the processes of health care. These events include "errors," "deviations," and "accidents." Safety emerges from the interaction of the components of the system; it does not reside in a person, device, or department. Improving safety depends on learning how safety emerges from the interactions of the components. Patient safety is a subset of health care quality, prevention of error and adverse effects to patients associated with health care (4 & (5).

Safety problems include prevalence and cause of medication errors by healthcare personnel in all settings; surgery or procedure on wrong part of body; errors in performance of hazardous activities (surgery, anesthesia, radiation therapy, etc);

misdiagnosis; selection of inappropriate treatment; and nosocomial infection (6 & (21).

Causes of errors include failure to follow standard operating procedures, poor leadership, breakdowns in communication or teamwork, overlooking or ignoring individual fallibility, and losing track of objectives (7) & (22).

The five elements of the first global patient safety challenge are blood safety, injection safety-immunization safety, safe clinical procedures, safe water, sanitation in health care and hand hygiene (8). Ten best practices for patient safety are: curb infection spread, identify patients correctly, use medicines safely, avoid surgical errors, prevent venous thromboembolism, customize hospital discharges, use good hospital design principles, assemble better teams and rapid response systems, share data for quality improvement and foster an open-communication culture(9). Moreover, there are six elements of a true patient safety culture which include: patient safety culture starts at the top, patient safety culture is driven by a vision, patient safety culture involves everyone at every level, patient safety culture requires some evolution,

commitment to patient safety culture is consistent, and patient safety culture ultimately transcends the leadership⁽¹⁰⁾. The National Patient Safety Foundation calls on hospitals to build a culture of patient centered care. To improve safety is to improve the partnership between patients and providers at every level. To create a culture of patient-centered care, hospitals should teach and encourage effective communication skills between clinicians, patients and their families, engage leadership in promoting and training providers in open communication about medical errors, use trained patient representatives as advocates for patient safety, implement patient and family advisory councils, incorporate patient and family representation on the board⁽¹¹⁾

The level of staff involvement in patient safety activities is influenced by several factors including: scarcity of nursing resources, inability to engage nurses at all levels, requests for participation in multiple, often duplicative, quality improvement initiatives, coping with the additional administrative burden associated with quality improvement activities, traditional

nurse education programs that do not prepare nurses for their evolving role within the hospital setting⁽¹²⁾. Patient safety is a multidimensional concept that is central to clinical education. Nurses and other health care professionals are under increased scrutiny to provide safe and effective care. Likewise, nursing education programs are faced with increased pressure to produce graduates who are capable of providing safe patient care. Toward that end, nursing education programs develop curricula, hire qualified faculty and select learning experiences for students in an effort to train and graduate competent and effective nurses⁽¹³⁾. The six domains of the safety competencies include, contribute to a culture of patient safety, work in teams for patient safety, communicate effectively for patient safety, manage safety risks, optimize human and environmental factors and recognize respond to and disclose adverse events⁽¹⁴⁾.

Significance of the Study:

Patient safety is the cornerstone of high-quality health care. Much of the work defining patient safety and practices that prevent harm have focused on negative outcomes of care, such as mortality and

morbidity. Nurses are critical to the surveillance and coordination that reduce such adverse outcomes. This study is conducted to assess the perceptions of patient safety competence among Undergraduate Nursing Students at faculty of nursing; Menoufiya university.

Aim of the Study: This study aims to determine the perception of patient safety competence among under graduate nursing students.

Research Question:

What is the perception of undergraduate students toward patient safety?

Subject and methods :

Research design : A descriptive research design was conducted for this study.

Settings : The study was conducted at faculty of nursing , Menoufiya University which is university – affiliated with primary role in education .

Sample

Convenient sample of 120 fourth year nursing students from the previous mentioned above setting . The rationale for selection of fourth year students was that there is some items in the questionnaire must be filled with students have studied

nursing administration e.g. management, or the work environment including policies, resources, communication and other processes) and system failures and their role in adverse events , team dynamics and authority/power differences, managing inter-professional conflict, sharing authority, leadership, and decision-making, effective verbal and nonverbal communication abilities to prevent adverse events and System” aspects of patient safety were well covered in our research. aspects of the organization, management, or the work environment) .

Tools:

1. Questionnaire for socio-demographic data
2. Health Professional Education in Patient Safety Survey (H-PEPSS) **(Canadian Patient Safety Institute, 2009)**

The H-PEPSS is an instrument to measure health professionals’ perceptions of patient safety competence at entry into practice. It focuses primarily on the socio-cultural aspects of patient safety including culture, teamwork, Communication, managing risk and understanding, human factors

(Ginsburg et al., 2011). This tool has three sections:

Section 1: Learning about specific patient safety content areas it asks about 7 areas that have to do with keeping patients safe. It assesses the extent to which student feel confident about what she learned in each of these areas both in classroom and clinical practice setting experiences.

These seven areas include: clinical safety, culture of safety, working in teams with other health professionals, communicating effectively, managing safety risks, understanding human and environmental factors, recognize, respond to and disclose adverse events and close calls. The score of each item ranges from 1 (strongly disagree) to 5 (strongly agree) in both class room and clinical setting.

Section 2: How broader patient safety issues are addressed in health professional education. The score of each item ranges from 1 (strongly disagree) to 5 (strongly agree)

Section 3: Comfort speaking up about patient safety. The score of each item ranges from 1 (strongly disagree) to 5 (strongly agree).

The scores of each section are calculated separately. The questionnaire is translated into Arabic to be easy for students to understand and answer.

Administrative design:

Before starting the actual data collection process administrative approval for the research was taken from dean of College of Nursing Menoufyia University. The researchers introduced themselves, explained the objectives of the study to students, and informed them that their information will be confidential and will be used only for the purpose of the research.

Validity and Reliability

Validity test was done by 5 experts from the nursing administration staff in faculty of nursing Menoufyia University. Reliability test was done by applying the questionnaire to 10 student nurses using test-retest.

Pilot study:

A pilot study was conducted on 10 students from the faculty of nursing to test the applicability and clarity of the tool and to estimate the time needed to fill in the questionnaire. On the basis of the pilot study result the researcher determined the feasibility of data collection procedures, and

identified the most suitable time to visit the students and avoid disturbance of the teaching process. Students who had participated in pilot study were excluded from the sample during data analysis.

The Field Work

Data collection was carried out within duration of two months from first of September to first of November 2012. The time required for completing the questionnaire was ranged from 15 to 20 minutes.

Protection of Human Rights:

The researchers emphasized to the students were informed that all information would remain confidential. The purpose of the study was explained and students were informed that they have the freedom to accept or reject participation at any time, without any prejudice.

Statistical Analysis:

The collected data was analyzed, tabulated using the statistical package for the social sciences (SPSS) version 17. Qualitative data was analyzed through number and percent. Quantitative data was analyzed using Arithmetic mean and standard

deviation. T- test was used to test statistical significant differences between means.

Results

Table (1) illustrates that the average age of the fourth year nursing students were 23.58 years. Approximately less than half of the fourth year students in the sample (43.3%) their fathers had high education. In relation to mothers education less than half of the fourth year students (48.3%) their mother had middle education.

Table (2) shows that most of nursing students have moderately competent related to domain of patients safety. (Learning about specific patient safety content areas in class, Learning about specific patient safety content areas in clinical area , How broader patient safety issues are addressed in health professional education and comfort speaking up about patient safety) by percentage of 73.3%, 79.2%, 63.3% and 83.3 % respectively.

Table (3) presents nursing students perceptions of learning about specific patient safety content areas. There were statistical significant differences between learning in class room and learning in clinical setting

related to culture of safety and the total specific patient safety content areas. The mean scores are higher in clinical area than in class room in all domains of specific patient safety content areas except clinical safety and understanding human and environmental factors.

Table (4) shows that there was significant difference between student perception about addressing patient safety issues in health professional education and Comfort speaking up about patient safety.

Table (1) Frequency Distribution of Socio- demographic Characteristics of the Sample:

Variable	Nursing students (N = 120)	
	No	%
Age(year)		
18 – 20 year	0	0
21 – 24 year	120	100
Mean _± SD	23.58±2.91	
Father Education		
Illiterate	17	14.2
Read and write	23	19.2
Middle education	28	23.3
High	52	43.3

Mother Education		
Illiterate	20	16.7
Read and write	22	18.3
Middle education	58	48.3
High	20	16.7

Table (2) Perceptions of Nursing Students about Level of Patient Safety Competency.

Domains of patient safety	Student opinions (n = 120)	
	No	%
<u>Learning about specific patient safety content areas in class</u>		
Highly competent	27	22.5
Moderately competent	88	73.3
Less competent	5	4.2
<u>Learning about specific patient safety content areas in clinical area</u>		
Highly competent	25	20.8
Moderately competent	95	79.2
Less competent	0	0
<u>How broader patient safety issues are addressed in health professional education</u>		
Highly competent	41	34.2
Moderately competent	76	63.3
Less competent	3	2.5
<u>Comfort speaking up about patient safety</u>		
Highly competent	10	8.3
Moderately competent	100	83.4
Less competent	10	8.3

Table (3) Nursing Student's Perceptions of Learning about Specific Patient Safety Content Areas

Learning about specific patient safety content areas	In class room	In clinical area	t-test	P- Value
	Mean \pm SD	Mean \pm SD		
Clinical safety	14.6 \pm 2.7	14.2 \pm 4.3	1.6	0.09
Culture of safety	13.4 \pm 2.9	14.4 \pm 4.9	-2.3	0.02*
Working In Teams with Other Health Professionals	20 \pm 4.4	20.5 \pm 4.8	-1.3	0.2
Communicating Effectively	11.1 \pm 2.04	12.08 \pm 6.2	-1.7	0.08
Managing Safety Risks	9.9 \pm 1.9	10.1 \pm 2.2	-0.7	0.4
Understanding Human and Environmental Factors	10.6 \pm 2.3	10.4 \pm 2.5	0.7	0.4
Recognize, Respond to and Disclose Adverse Events and Close Calls	14.3 \pm 2.2	15.3 \pm 5.4	0.9	0.05
Total	94.01 \pm 5.2	97.06 \pm 7.4	2.2	0.03*

Table (4) Student Perception about Addressing Patient Safety Issues in Health Professional Education and Comfort Speaking Up About Patient Safety

Domains	Mean	±SD	t-test	p- value
Addressing patient safety issues in health professional education	25.5	7.7	35	0.001**
Comfort speaking up about patient safety	8.9	2.2	42.9	0.001**

Discussion

Patient safety is identified in the NMC Code (Nursing and Midwifery Council 2008) as an essential part of nursing care (**royal college of nursing, 2013**). Patient safety is an ongoing challenge in the design and delivery of health-care services. As registered nurses play an integral role in patient safety, further examination of the link between nursing work and patient safety is warranted (**Ramanujam, Abrahamson & Anderson, 2008**). The aim of this study is to determine the perception of patient safety competence among under graduate nursing students at Faculty of Nursing Menoufyia University.

The results of this study (table 2) shows that the majority of nursing students have moderate competence level in all domains

of patient safety this result is contradicted with (**Schnall et al., 2013**) who found on their study of advanced practice nursing students' identification of patient safety issues in ambulatory care that nurses (N = 172) identified a large number of safety issues in the ambulatory care setting, including issues in their own practice (50.7% of the encounters), feeling rushed or hurried (34.8% of encounters), and being interrupted (27.0% of encounters). Greater patient complexity was a significant predictor of identifying a diagnostic or management and treatment issue. The presence of an electronic health record was not related to reporting of a patient safety issue.

Moreover, the results of this study (table 3) revealed that students` mean scores related to patient safety are higher in clinical area than in class room in all domains of specific patient safety content areas except clinical safety and understanding human and environmental factors. This result is in the same line with **(Vaismoradi et al., 2013)** who found in their study of nursing students' perspectives and suggestions on patient safety-implications for developing the nursing education curriculum in Iran that, two main themes emerged from content analysis, the first one is "involving students fully in patient care" with subthemes 'building a trusting relationship between education and practice', and 'promoting inter-dependence between health-care providers'. And the second one is "structuring patient safety education" with subthemes 'transforming nursing routines to evidence-based care', and 'connecting care to patient safety issues'. Additionally this result is agreed with the result of **(Vaismoradi, Salsali&Marck, 2011)** in their study of patient safety, nursing students' perspectives and the role of nursing education to provide

safe care who found that, three main themes emerged from the data analysis ,safety as patient comfort , not being knowledgeable or experienced enough' and 'being helped to internalize the principles and values of patient safety'. The third theme consisted of two categories: 'adopting a humanistic approach towards patients' and 'practicing conscientiously in the workplace'.More support for these is gained from **(Killam et al., 2011)** who found in their study of Unsafe clinical practices as perceived by final year baccalaureate nursing students, Q methodology that Senior nursing students perceive that deficits in knowledge, patient-centered practice, professional morality and authenticity threaten safety in the clinical learning environment.

Conclusion

Based on the results of the present study, it was concluded that:

Nursing students have moderate level of competence related to patient safety .Also, The mean scores of patient safety are higher in clinical area than in class room in all domains of specific patient safety content areas except clinical safety and

understanding human and environmental factors.

There was significant difference between student perception about addressing patient safety issues in health professional education and Comfort speaking up about patient safety.

Recommendations:

Based on the previous findings, it was recommended that:

- 1- Patient safety issues must be included in the curricula of undergraduate nursing students.
- 2- Use of the patient simulator as an instructional strategy to improve patient safety competence among nursing students.
- 3- Policy makers and educators should support the development of necessary competencies in nurses, bring creativity into the style of patient safety education, and consider the cultural specific aspects of the phenomenon of patient safety during designing nursing education curricula.

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