

## Nursing Students Perceptions and Knowledge Regarding Patient Safety



### Original Research Article

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### ABSTRACT

**Objectives:** Patient safety is an important component of patient care that emphasizing incident management and risk reduction strategies. The present exploratory study aimed to explore Saudi nursing students' knowledge and awareness regarding patient safety.

**Design:** A self-administered voluntary questionnaire survey.

**Setting:** This study was conducted at college of nursing, Imam Abdulrahman Bin Faisal University, Saudi Arabia.

**Participants:** A total of 173 nursing students who were available at the data collection time (79 third year students and 94 fourth year students).

**Results:** The majority of students have good or very good knowledge related to patient safety and supported that 'medical errors are expected and that what is considered as 'best care' may not always be provided. Also they supported the idea that 'competent nurses do not make errors'. With regard to the skills that the students would like to acquire, close to or more than 85% considered it important to learn how to analyze the cause of an error, as well as skills in releasing an error to a patient, and supported the idea that "nurses need to know what drugs they are deal with".

**Conclusion:** The findings from the present study provides higher positive awareness of nursing students about patient safety. Nursing students were aware of medical errors being an expected barrier between intended 'best care' and what was actually provided to patients. However, effective educational interventions that target deficiencies in patient safety knowledge are greatly needed for all Nursing students.

**Key words :** Nursing Education, undergraduate; Medical errors; Safety management; Students.

**I. INTRODUCTION**

Reducing harm caused by health care is a global priority. Nursing students should be able to identify unsafe environments, scientifically report errors, investigate and improve such systems with a systematic understanding of human mistakes, and release errors to patients (Nie et al. 2011). Patient safety is a new healthcare discipline that emphasizes the reporting, analysis, and prevention of healthcare error that often leads to adverse healthcare events. Recognizing that healthcare errors impact 1 in every 10 patients around the world, the World Health Organization calls patient safety an endemic concern (WHO, 2011). There is a significant trans-disciplinary body of theoretical and research literature that informs the science of patient safety. Nursing students' knowledge and perception can provide insight into the role of nursing education in empowering students to provide safe care during their program and as future practitioners.

Patient safety is defined as minimizing a patient's exposure to hazards and near-misses and, likewise, reducing the risk of unnecessary harm associated with health care to an acceptable minimum. Hazard is defined as an agent, an action, or a circumstance that has the potential to cause harm for a patient, whereas a *near-miss* is an event that did not reach the patient (WHO, 2009). To reduce these events in health care, increased emphasis on patient safety in the health care education is imperative, including reforming of nursing curriculum. Several nursing studies (Gregory, et al 2009; Henneman et al., 2010; Mossey, et al 2012) have established the need for change in expressing the truth of nursing students' un-safe practices. The international patient safety guidelines for health care education (EUNetPaS, 2010; WHO, 2011) highlight the importance of health care professionals having a foundation of knowledge, skills, behavior, and attitudes relevant to patient safety and to similarly underline the importance of practicing patient safety in all their actions.

International studies recognized that adverse events producing harm for patients happen to around one of 10 patients while receiving health care (Vries, et al 2008; Soop, et al 2008; Vlayen et al., 2012). Recently, legislation and strategies for improving patient safety have been widely organized at national and international ranks (European Network for Patient Safety, 2010; Ministry of Social Affairs and Health, 2009; World Health Organization, WHO 2011). Advancing in improving patient safety is one of the most significant prospects for having a safe and effective health care system. Consequently, nursing education has a significant role in obtaining patient safety in a health care environment (James, 2010).

In summary, it is important to review and integrate the current knowledge about the nature of teaching patient safety in nursing education. In addition, understanding the effects of the teaching and learning methods used for patient safety education and how nursing students learn about patient safety are both important areas to consider when developing nursing education.

**II. MATERIALS AND METHODS**

**Research design:** An intentional questionnaire survey was used in this study.

**Setting:** This study was conducted at college of nursing, Imam Abdulrahman bin Faisal University.

**Subjects:** Participants were 173 third and fourth years nursing students who were available at the college of Nursing during the time of study. Subject were from third year (n=79), and fourth year (n=94).

**Tool:** The questionnaire was adapted from that used in a study previously reported by Madigosky et al (2006). The questionnaire of the present study allocated with 43 items grouped in three sections. The 6 items in Section 1 were a variety of statements which may or may not be reliable with the current teachings on patient safety. They were designed to assess the students' perceptions on the causes and handling of medical errors. Section 2 (28 items) focused on nursing students' knowledge on patient safety issues. Section 3 (9 items) addressed attitudes towards the teaching of patient safety and their inclusion within the Nursing curriculum. Responses to each item were graded using a 5-point ordinal scale (1=strongly disagree/very poor, 2=disagree/poor, 3=neutral/fair, 4=agree/good, 5= strongly agree/very good).

**Procedures:** Formal permission from the Dean of college of Nursing was obtained and verbal consent was obtained from students to participate in this study.

**Data Collection:** An intended questionnaire survey was conducted on third and fourth year nursing students, during a whole-class orientation session in May 2016.

**Statistical analysis:** After data were collected, they were coded and transferred into especially design formats to be suitable computer feeding. The statistical package of social science (SPSS) version 23.0 was utilized for data analysis and tabulation all entered data were verified for errors. A p-value of 0.1 levels was used as the cut off value for statistical significance. Correlation, mean, and standard deviation were used to test the significance of some related variables in this study.

**III. RESULTS**

Of a total of third and fourth year nursing students (213), 173 completed the questionnaire, flexible a response rate of 81%. In the following summary of the study findings, the term 'majority' means 'greater than 50% of respondents'. The term 'supported' was used when the respondents either 'agreed' or 'strongly agreed' with an item. The term 'objected' was used when the respondents either 'disagreed' or 'strongly disagreed' with an item. **Table one** shows the distribution of nursing students according to their socio-demographic data. As regards nursing student age, the majority of them (86.7%) aged less than 22 years old with mean age 21.43 ± 0.996. This table also showed that 60.7% of students were single and 39.3% were married students.

**Table 1- Distribution of Nursing Students According to Their Socio-demographic data (N=173)**

Demographic Data		No	%
Age:	≥22years	23	13.3%
	<22 years	150	86.7%
Mean		21.43 + 0.996	
Academic level of the student:	Third year	79	45.7%
	Fourth year	94	54.3%
GPA:	4.1-5	21	12.1%
	3.1-4	107	61.8%
	2.1-3	45	26%
Marital states of the student:	Single	105	60.7%
	Married	68	39.3%
Resident of the student:	Rural	22	12.7 %
	Urban	151	87.3%

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Figure one presents the average of students’ knowledge regarding patient safety issue, it shows that the majority of students 63.6% have good or very good knowledge related to patient safety.

Fig. 1 Percentages of Nursing Student average knowledge related to patient safety

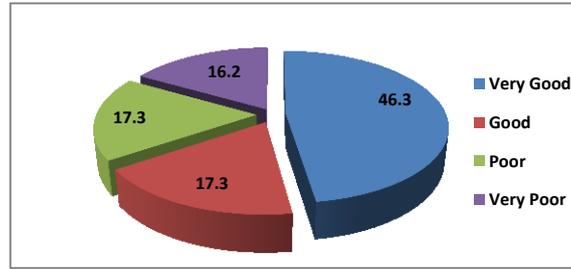


Table two shows nursing student responses to attitude items of the questionnaire on patient safety, the first four ‘Attitude items’ addressed the causes of medical errors. While the majority of the students supported that ‘medical errors are expected and that what is considered as ‘best care’ may not always be provided, and 18.7% objected to the suggestion that medical errors are expected (items 1 and 2). Also, majority of the students supported the idea that ‘competent nurses do not make errors’ (item 3). About one-fourth of the nursing students objected to the proposition that most errors are due to non-nurses related factors (item 4). Items 5 to 9 addressed the management of medical errors. Most of students supported the practice expose, and over one third agreed that there was no need to address an error which has not harmed patients (items 5 and 6). Approximately 82% of the students supported to the idea that a reporting system did not help enough to reduce future errors, and around 10% objected that the participation of personnel other than nurses would not help to determine the cause of error (items 7 and 8). On the other hand, 85% supported that the most effective strategy to prevent errors is to work harder rather than blaming others (items 9).

Table 2- Student responses to Attitude items of the questionnaire on patient safety (n=173)

Items of Attitude	% of students*				
	Strongly agree	Agree	Natural	Disagree	Strongly disagree
1. Making errors in nursing is expected.	21.4	32.9	27.2	8.7	9.8
2. There is a gap between what nurses known as “best care” and what is being provided on a day-to-day basis.	28.3	35.3	26.6	8.1	1.7
3. Competent nurse does not make medical errors that lead to patient harm.	19.7	34.7	26	13.9	5.8
4. Most errors are due to things that nurse cannot do anything about.	15.6	31.2	28.3	22.0	2.9
5. If I saw a medical error, I would correct it as I can.	43.4	41	11.6	2.9	1.2
6. If there is no harm to a patient, there is no need to address an error.	12.7	19.7	16.2	25.4	26.0
7. Nurses can determine the causes of a medical error.	20.2	53.8	16.8	7.5	1.7
8. Reporting systems do little to reduce future errors.	46.2	35.8	16.2	1.2	0.6
9. After an error occurs, it is better to understand the underlying factors rather than blaming others.	53.8	31.2	11	4	0

Table 3 - Student responses to knowledge items of the questionnaire on patient safety (n=173)

Item of Knowledge	% of students*				
	Very Good	Good	Fair	Poor	Very Poor
10. Patient safety is basic health need affecting patient and economy in the community.	75.1	18.5	4.6	1.2	0.6
11. Patient safety aims at reducing the harm and suffering of the patient and their families	72.8	20.8	4.6	1.2	0.6
12. Patient safety aims at reducing the cost of health services	38.2	42.8	11.0	5.8	2.3
13. Unsafe patient care may lead to permanent injury, increased length of stay in health care settings or death.	51.4	38.2	5.2	4.6	0.6
14. Patient safety depends on development of system of care.	50.9	37.0	8.7	2.3	1.2
15. Limited financial resources, contribute to unsafe patient care.	28.3	42.8	17.3	11.0	0.6
16. Effective communication between health team is important for patient safety.	62.4	31.2	4.6	1.2	0.6
17. Standardization of procedures in health care settings can prevent errors.	48.0	37.6	10.4	2.9	1.2
18. Patient safety depends on a number of people doing the right thing, at the right time, and at the right manner.	50.3	31.8	12.1	5.2	0.6
19. The physician and nurses should work together as a team for patient safety.	65.3	26.0	6.4	1.2	1.2
20. Patient has important role to got patient safety.	50.3	38.2	9.2	1.2	1.2
21. I am well prepared to work as a member in a team for patient safety.	35.3	39.3	17.9	7.5	0
22. Informatics Nurses play important role to reduce future error.	40.5	39.9	15.6	3.5	0.6
23. Health Information systems are tools that can improve patient safety by improving communication, diet plan, and reduce medication errors.	55.5	34.7	8.1	0.6	1.2
24. Reporting systems allow saving patient data and can be retrieve it in any time.	43.4	44.5	7.5	4.6	0
25. Excessive workload, impair the performance of nurses	40.5	39.3	13.3	4	2.9
26. Nurses are less effective at work when fatigued	39.3	35.8	16.2	6.9	1.7
27. Nurses are more likely to make errors in tense situations	28.9	37.6	20.8	11	1.7
28. Management policies are very important for patient safety	53.2	31.8	12.1	2.3	0.6
29. Number of staff in the clinical area affect patient safety	45.7	40.5	8.7	3.5	1.7
30. Nurses need continuous training courses on patient safety	53.8	34.1	10.4	1.2	0.6
31. Infection prevention and control practice enhances patient safety.	65.3	24.3	8.7	1.2	0.6
32. Using quality improvement tools help to improve patient safety.	49.7	40.5	7.5	2.3	0
33. Written roles, policies and procedures help to improve patient safety.	48.6	34.1	14.5	1.7	1.2
34. It is difficult to discuss errors.	13.9	20.2	32.4	20.8	12.7
35. Standard Precautions are the minimum infection prevention practices that apply to all patient care	42.2	35.8	17.9	3.5	0.6
36. Cleaning procedures can be periodically monitored or assessed to ensure that they are consistently and correctly performed.	41.6	37	15	4.6	1.7
37. I am well informed on ‘patient safety’	34.7	36.4	23.7	5.2	0

Table three shows nursing student responses to knowledge items of the questionnaire on patient safety, items 10 to 36 were very specific factual-recall questions. In this respect, the majority of the students’ self-assessment of their own knowledge was ‘good’ or ‘very good’ (Table 3). On the other hand, the item of knowledge “It is difficult to discuss errors” more than one-third of the students rated their own knowledge as ‘poor or very poor’ (item 34).

**Table 4- Student responses to Teaching of patient safety items of the questionnaire on patient safety (n=173)**

Teaching of patient safety	% of students*				
	Strongly agree	Agree	Natural	Disagree	Strongly disagree
38. Learning how to improve patient safety is an appropriate use of time in nursing schools.	40.5	42.2	13.3	2.9	1.2
39. I would like to receive further teaching on patient safety.	42.8	44.5	8.1	3.5	1.2
I would like to receive teaching on the following:	37.6	38.7	20.2	2.3	1.2
40. Supporting and advising a peer who must decide how to respond to an error.					
41. Analyzing a case to find the cause of an error	39.3	43.9	14.5	0	2.3
42. Releasing an error to a patient	46	37.6	3.7	7.5	5.2
43. I think it is made very clear that nurses need to know what drugs they are deal with.	49.7	36.4	12.7	0.6	0.6

Table four shows nursing students’ responses to teaching of patient safety items of the questionnaire on patient safety, majority of the students supported the idea that patient safety is an important topic for both nurses and students, and a similar percentage would like to receive further teaching on the subject (items 38-40; Table 4). With regard to the skills that the students would like to acquire, close to or more than 85% considered it important to learn how to analyze the cause of an error, as well as skills in releasing an error to a patient, and supported the idea that “nurses need to know what drugs they are deal with” (items 41-43).

**Table 5- Correlation of Nursing Students awareness according to their academic year**

Statement	Fourth year		Third year		test of sig.
	No.	%	No.	%	
1. Patient safety is basic health need affecting patient and economy in the community.	78	92.6	75	94.9	.000
2. Patient safety aims at reducing the harm and suffering of the patient and their families	88	93.6	74	93.7	.001
3. Limited financial resources, contribute to unsafe patient care.	71	75.5	52	65.8	.003
4. Effective communication between health team is important for patient safety.	91	96.9	71	89.9	.010
5. Patient safety depends on a number of people doing the right thing, at the right time, and at the right manner.	82	87.3	60	75.9	.009
6. The physician and nurses should work together as a team for patient safety	87	92.6	71	89.9	.007
7. Patient has important role to get patient safety	79	84	74	93.7	.005
8. Reporting systems allow to easier updating or changing in care plans and faster information access.	78	83.0	64	81.0	.002
9. Reporting systems allow saving patient data and can be retrieve it in any time.	84	86.2	71	89.9	.002
10. After an error occurs, it is better to understand the underlying factors rather than blaming others.	76	80.9	71	89.9	.004
11. Learning how to improve patient safety is an appropriate use of time in nursing schools.	79	84.0	64	81.0	.000

Table five represents nursing students awareness according to their academic year, there are statistical difference between nursing students awareness of patient safety in relation to their academic level (third and fourth years) in all items (p=.000, .001, .003, .010, .029, .007, .005, .002, .002, .004, .000) respectively.

#### IV. DISCUSSION

Recently, medical errors have become an important educational resource, and the introduction of patient safety in the undergraduate curriculum signifies a major change in culture in nursing institutions (Newell et al 2008 & Patey et al 2007). Educating how to manage errors effectively should enable future nurses to understand the impact of human limitations on clinical practice, improve patient care, reduce health care burdens, and engage in dynamic as opposed to defensive practice (Anderson et al 2009). In contrast, a lack of proper learning may result in unsatisfactory error reporting or a reluctance to adopt safety practices (Wakefield et al 2009).

Students have also been found to experience insistent suffering after making or observing errors, and those who seen appropriate error handling were more likely to recognize the importance of honesty and integrity (Martinez 2008). Studies comparing students before and after the introduction of proper patient safety information in curricula have established an advance in knowledge, skills, and awareness, although not all changes were constant (Mayer et al 2009). Interestingly, nursing students have also been shown to be valuable participants in ensuring patient safety when given the opportunities and appropriate training. Nursing curricula play a prominent role in ensuring that nursing students can demonstrate suitable patient safety competencies (Tella, 2014).

The present study revealed a number of important findings, which may update the design of college program. While the majority regarded medical errors as inevitable, more than two thirds of the students supported that competent nurses do not make errors, which indicates a fundamental misconception about the nature and pattern of human error (Leung & Patil, 2010). The researchers did not aim at testing the students’ factual knowledge on patient safety. Their self-appraisal however exposed an important knowledge gap, which a structured curriculum may serve to fill. It was encouraging that the great majority regarded patient safety as an important and welcome addition to the nursing curriculum. Their emphasis on root-cause analysis and open disclosure may be considered as important areas of learning in nursing program. Significant differences were noted between third and fourth year students in regarding to their awareness about patient safety. The main limitation of the present study was the use of a non-standardized survey instrument and a convenient cohort of two years of nursing students.

V. CONCLUSION AND RECOMMENDATIONS

The current study on nursing students’ perceptions and knowledge regarding patient safety presents interesting findings. It reflects higher positive awareness of nursing students at college of nursing, Imam Abdulrahman bin Faisal University about medical errors being an expected barrier between what is considered ‘best care’ and what is being actually provided. There was, however, a lack of appreciation of the multi-factorial mechanisms underlying the occurrence of errors, and the importance of a trans- disciplinary approach for their constructive management. A knowledge gap was found to exist. A formal curriculum on patient safety to bring about and withstand this change in health care settings is urgently needed and was found to be supported by the students.

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REFERENCES

[1] **Anderson E, Thorpe L, Heney D, Petersen S. (2009).** Medical students benefit from learning about patient safety in an interprofessional team. *Med Educ*;43:542-52.

[2] **de Vries, E.N., Ramrattan, M.A., Smorenburg, S.M., Gouma, D.J., & Boer-meesster, M.A. (2008).** The incidence and nature of in-hospital adverse events: A systematic review. *Quality and Safety in Health Care, 17*, 216-223.

[3] **European Network for Patient Safety. (2010).** *A general guide for education and training in patient safety.* Retrieved from [http://www.eupatient.eu/Documents/Projects/EUnetPaS/Guidelines\\_final\\_22%2006%202010.pdf](http://www.eupatient.eu/Documents/Projects/EUnetPaS/Guidelines_final_22%2006%202010.pdf)

[4] **Gregory, D., Guse, L., Dick, D.D., Davis, P., & Russell, C.K. (2009).** What clinical contracts reveal about nursing education and patient safety. *Canadian Nurse, 105*, 20-25.

[5] **Henneman, E.A., Roche, J.P., Fisher, D.L., Cunningham, H., Reilly, C.A., Nathanson, B.H., & Henneman, P.L. (2010).** Error identification and re-recovery by student nurses using human patient simulation: Opportunity to improve patient safety. *Applied Nursing Research, 23*, 11-21.

[6] **James, K.M. (2010).** Incorporating complexity science theory into nursing curricula. *Creative Nursing, 16*, 137-142.

[7] **Leung, G. & Patil, NG. (2010).** Patient safety in the undergraduate curriculum: Medical students’ perception. *Hong Kong Med J Vol 16 No 2.* [www.hkmj.org](http://www.hkmj.org)

[8] **Madigosky WS, Headrick LA, Nelson K, Cox KR, Anderson T. (2006).** Changing and sustaining medical students’ knowledge, skills, and attitudes about patient safety and medical fallibility. *Acad Med*;81:94-101.

[9] **Martinez W, Lo B. (2008).** Medical students’ experiences with medical errors: an analysis of medical student essays. *Med Educ*;42:733-41.

[10] **Mayer D, Klamen DL, Gunderson A, Barach P; (2009).** Designing a patient safety undergraduate medical curriculum: the Telluride Interdisciplinary Roundtable experience. *Teach Learn Med*;21:52-8.

[11] **Ministry of Social Affairs and Health. (2009).** Promoting patient safety together. Finnish patient safety strategy 2009–2013. Publications of the Ministry of Social Affairs and Health 2009:5. Retrieved from: [http://www.stm.fi/c/document\\_library/get\\_file?folderId=39503&name=DLFE-8037.pdf](http://www.stm.fi/c/document_library/get_file?folderId=39503&name=DLFE-8037.pdf)

INTERNATIONAL JOURNAL FOUNDATION

[12] **Mossey, S., Montgomery, P., Raymond, J.M., & Killiam, L.A. (2012).** Typology of undergraduate nursing students’ unsafe clinical practices: Q-methodology. *Journal of Nursing Education, 51*, 245-253.

[13] **Newell P, Harris S, Aufses A Jr, Ellozy S. (2008).** Student perceptions of medical errors: incorporating an explicit professionalism curriculum in the third-year surgery clerkship. *J Surg Educ*;65:117-9.

[14] **Nie, Y., Lin, L., Duan1, Y., Chen, P., Barraclough, B.H., Zhang, M., and Li, J. (2011).** Patient safety education for undergraduate medical students: a systematic review. Retrieved from: <http://www.biomedcentral.com/1472-6920/11/33>

[15] **Patey R, Flin R, Cuthbertson BH, et al. (2007).** Patient safety: helping medical students understand error in healthcare. *Qual Saf Health Care*;16:256-9.

[16] **Soop, M., Frysmark, U., Köster, M., & Haglund, B. (2008).** Adverse events in hospitals are common. The majority can be avoided according to a study of medical records. *Läkartidningen, 105*, 1748-1752.

[17] **Tella, S.; Liukka, M.; Jamookeeah, D.; Smith, N; Partanen, P.; and Turunen, H. (2014).** What Do Nursing Students Learn About Patient Safety? An Integrative Literature Review. *Journal of Nursing Education , Vol. 53, No. 1,*

[18] **Vlayen, A., Verelst, S., Bekkering, G.E., Schrooten, W., Hellings, J., & Claes, N. (2012).** Incidence and preventability of adverse events requiring intensive care admission: A systematic review. *Journal of Evaluation in Clinical Practice, 18*, 485-497.

[19] **Wakefield A, Attree M, Braidman I, Carlisle C, Johnson M, Cooke H. (2009).** Patient safety: do nursing and medical curricula address this theme? *Nurse Educ Today*;25:333-40.

[20] **World Health Organization. (2011).** Patient safety curriculum guide: Multi-professional edition. Retrieved from: [http://whqlibdoc.who.int/publications/2011/9789241501958\\_eng.pdf](http://whqlibdoc.who.int/publications/2011/9789241501958_eng.pdf)

[21] **World Health Organization (2009).** Conceptual framework for the inter-national classification for patient safety (v.1.1). Final technical report 2009. Retrieved from: [http://www.who.int/patientsafety/taxonomy/icps\\_full\\_report.pdf](http://www.who.int/patientsafety/taxonomy/icps_full_report.pdf)

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