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A Comparison of Students' Perception on Effectiveness of Integrating Electronic Health Records into Simulation in Undergraduate Nursing Program

Weihua Zhang, Darla R. Ura, Barbara Kaplan
Nell Hodgson Woodruff School of Nursing, Emory University, Atlanta, Georgia
Nell Hodgson Woodruff School of Nursing, Emory University

Why EHR?

- Electronic Health Records (EHR) make real time point of care efficient. We implemented EHR into our existing simulation exercise and attempted to evaluate the students' perception on the effectiveness of the simulation in our undergraduate nursing students in comparison to the same cohort who had the same simulation without using electronic health records in the prior year.

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Purpose of the study

- The main purpose of this study is to assess the difference on simulation effectiveness perceived by the students in the group with and without utilizing EHR in simulation exercise.

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Method

- A descriptive research design and convenience sampling was used to compare the effectiveness of perception data collected from the students after the simulation in these two groups. The difference in perception was compared by using the t-test.

Demographic Characteristic of 2011 and 2012 Group

Students	SIM Group (N=99)		SIMEHR Group (N =110)	
Age	Range	Mean (SD)	Range	Mean (SD)
	22-54	27.6 (6.8)	21-45	26.3 (5.3)
	N	%	N	%
Gender				
Male	6	6.0	15	13.6
Female	93	93.9	95	96.4
Race				
White	55	55.6	50	45.5
Black	18	18.2	24	21.8
Hispanic	5	5.1	3	2.7
Asian	8	8.1	10	9.1
Others	13	13.1	23	21

Priority setting simulation

- (1) abdominal aortic aneurysm (AAA) with impending rupture, (2) lower gastrointestinal bleeding with sudden active bleeding, and (3) a diabetic patient experiencing hypoglycemia. The simulation allows two students to practice prioritizing and delegating skills when planning for anticipated patient needs as well as when dealing with unexpected events.

EHR access

- The students were required to review a “scavenger hunt”- a game designed to help students to find contents such as “x-ray report”, “complete blood counts”, “glucose level”, “vital signs”, and others, which is prepared by the manufacturer prior to their simulation time in order to familiarize them with the system components.

EHR access

- In addition, these students could access the EHR of the three designated patients prior to the simulation as well as during the simulation allowing them to analyze medications and lab results in real time.

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Debriefing

- Debriefing was conducted after the simulation led by the faculty member who conducted and observed the simulation. At the end of the simulation, students were asked to complete a simulation effectiveness perception survey.

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Result

	Differences			95% CI of the difference	
	t	Df	p	Lower	Upper
SIM and SIMEHR	0.797	140	.427	.96	2.25

Comparison of SIM group with the SIMEHR group on perceptions of effectiveness of simulation, no significant differences were noted.

Discussion/implication in nursing education

- We interpreted these findings positively as the inference is that students did not view the EHR as an impediment for their learning process. This could suggest that while designing simulations in the future we could integrate the EHR with a reasonable expectation of seamless transition for our students.

Discussion/implication in nursing education

- In addition, with neutral student perceptional changes in integration of EHR into the simulation suggests that the transition from utilizing paper chart to electronic chart should be started from early nursing education. From our experience with integrating EHR to the pre-existing simulation, we were able to implement it into our current curriculum successfully with aforementioned proper planning.

Discussion/implication in nursing education

- We interpreted these findings positively as the inference is that students did not view the EHR as an impediment for their learning process. This could suggest that while designing simulations in the future we could integrate the EHR with a reasonable expectation of seamless transition for our students.

Discussion/implication in nursing education

- Other possible reason could be that these students are technologically savvy and made adaptation to the new technology rather smoothly. Positive student comments on their ability and confidence in using the EHR and providing patient care further support this finding.

Discussion/implication in nursing education

- We interpreted these findings positively as the inference is that students did not view the EHR as an impediment for their learning process. This could suggest that while designing simulations in the future we could integrate the EHR with a reasonable expectation of seamless transition for our students.

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