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Original Research Paper

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SELF-EFFICACY, LEARNER SATISFACTION AND PRACTICES OF SIMULATION BASED EDUCATION AMONG NURSING STUDENTS IN MAHSA UNIVERSITY

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ABSTRACT Simulation has been utilized by the nurses to engage in critical thinking while performing critical skills. Study aimed to assess self-efficacy, learner satisfaction, and practices of simulation based education among nursing students.

Methods: Cross sectional survey was conducted among nursing students at MAHSA University. Random sampling was used to select the sample (n =160).

Results: The Mean and SD of student satisfaction are 74.75 ±12.073, self - efficacy 77.23 ± 10.247 and perceived simulation practices is 75.36 ± 8.901. The spearman's test indicated that student satisfaction had a statistically significant correlation with self - efficacy (r = 0.489) and simulation practices (r = 0.433). In regards to self -efficacy the results indicated that there was statistically significant correlation with simulation practices at p value <0.01. This study indicated that using simulation as a strategy for teaching and simulation can help to bridge the gap between academic and clinical performance.

KEYWORDS : Simulation Based Education, Self-Efficacy, Learner Satisfaction, Simulation practice.

INTRODUCTION

The new knowledge and technology which are currently proliferating at as exponential rate, as well as changes in the delivery of health care address the need for changes in contemporary nursing education in a timely manner (Greiner and Knebel, 2004).

Simulation-based nursing education provides opportunities to practice clinical and decision-making skills through various real-life situational experiences. Patient simulators, devices, lifelike virtual environments, role-playing, and mannequins were used in simulation based education and learning mannequins. Key aspects of simulation education are the ability to repeat practice to consolidate learning and develop competence, using instructor feedback, video debriefing and the adaptability to diverse types of learning strategies (Barry Issenberg, Mcgaghie, Petrusa, Lee Gordon & Scalese, 2005).

With realistic clinical scenarios, Students who lack self-confidence find it difficult to transition from student nurse to primary care giver upon graduation from nursing school. The absence of self confidence affects nursing judgment at the bedside and ability to provide quality care and evidence-based nursing care to clients (Little, Ginny N, 2013). Meta-analysis showed that Simulation-based nursing educational interventions have strong educational effects, with particularly large effects in the psychomotor domain (Kim, Park & Shin, 2016). This study is aimed to assess the self-efficacy, learner satisfaction and practices of simulation based education among nursing students in MAHSA University. The outcome of the study is to identify the gaps in nursing skill education and provide recommendations for improvement.

Research objectives

1. Determine the Nursing students' levels of satisfaction and self-efficacy related to their simulation learning experiences.
2. Assess the perceived practices regarding simulation based learning among nursing students.
3. Determine the relationship between satisfactions, self-efficacy and perceived practices of simulation based learning among nursing students.

Methods

Study Design: Cross sectional survey method was employed.

Setting of study: This study was conducted in Faculty of Nursing and Midwifery, MAHSA University. Besides traditional class room teaching, the faculty is utilizing advanced method of teachings such as problem based learning, programmed instructional method and simulation laboratories for skill practice.

Population

The Source of population is all Diploma in Nursing students studying at Faculty of Nursing and Midwifery, MAHSA University.

Sampling

Simple random sampling method was used to select the 160 diploma nursing students. The inclusion criteria were diploma nursing students who attended at least one clinical attachment for skill practice and Both Genders were included.

Variables

Outcome Variable are Learners' self-efficacy, satisfaction and practices on simulation based learning.

Data collection instrument:

Instruments have three sections, as follows;

Section 1 : Socio demographic information such as Age, Gender, level of study, English language competency, cumulative grade point average, number of simulation events, teachers assistance on skill learning, professional selection.

Section 2 : Student Efficacy and Satisfaction, a 13-item instrument were designed to measure student satisfaction (five items) with the simulation activity and self-efficacy in learning (eight items) using a five-point likert scale (r = 0.94).

Section 3: Simulation Practices. A 16-item instrument were designed to measure four educational practices (active learning, collaboration, diverse ways of learning, and high expectations (r = 0.91). Instrument is adopted from National League for Nursing -NLN ,2006.

Data collection Procedure

The participants were selected randomly and they were explained about the purpose, method and the extent of the study. Then data was collected through self-administered questionnaire.

Data Processing and Analysis

All collected questionnaires were checked for completeness and consistency of responses manually. Then data was analyzed using

SPSS, version 22 software. The Descriptive statistics were presented in frequency tables and figures. Correlation co efficiency was used to identify the relationship between the outcome variables.

Ethical Consideration

This study was approved by the Research Management committee (RMC), MAHSA University and written informed consent was obtained from all the participants. Confidentiality and anonymity of the participants were assured. They were informed that they have the right to discontinue or refuse to participate in the study.

Results

Majority of the participants are female 135 (84.4%) and between age of 15-20 years 134 (83.8%); nearly three fifth were second year students 95 (59.4%). More than half of the participant had good competency on English language 85 (53.1%). More than two third (70%) of participants in this study had ≥ 3.00 (Mean value). More than three fourth of the participants (88.8%) had ≥ 2 practices of simulation events. Majority of the participant have perceived the good level of teachers assistance on skill teaching 144 (90%). More than half of the participants were reported that the nursing profession was not their first choice (55%) of professional selection however two fifth of participants were chosen nursing profession as their first choice (40.6%).

Table 1 : Levels of satisfaction and self- efficacy of the participants

n =160

Satisfaction with Current Learning	Strongly Disagree f (%)	Disagree f (%)	Undecided f (%)	Agree f (%)	Strongly Agree f (%)
The teaching methods used in this simulation were helpful and effective.	2 (1.3)	14 (8.8)	19 (11.9)	103 (64.4)	22 (13.8)
The simulation provided me with a variety of learning materials and activities to promote my learning in the curriculum.		15 (9.4)	27 (16.9)	96 (60.0)	22 (13.8)
I enjoyed how my instructor taught the simulation.	1 (0.6)	18 (11.3)	29 (18.1)	90 (56.3)	22 (13.8)
The teaching materials used in this simulation were motivating and helped me to learn.	1 (0.6)	17 (10.6)	23 (14.4)	102 (63.8)	17 (10.6)
The way my instructor(s) taught the simulation was suitable to the way I learn.	4 (2.5)	19 (11.9)	25 (15.6)	92 (57.5)	20 (12.5)
Self- efficacy (confidence) in Learning	Strongly Disagree f (%)	Disagree f (%)	Undecided f (%)	Agree f (%)	Strongly Agree f (%)
I am confident that I am mastering the content of the simulation activity that my instructors presented to me.		27 (16.9)	40 (25.0)	74 (46.3)	19 (11.9)
I am confident that this simulation covered critical content necessary for the mastery of curriculum.	1 (0.6)	12 (7.5)	31 (19.4)	100(62.5)	16 (10.0)
I am confident that I am developing the skills and obtaining the required knowledge from this simulation to perform necessary tasks in a clinical setting	2 (1.3)	9 (5.6)	16 (10.0)	114 (71.3)	19 (11.9)
My instructors used helpful resources to teach the simulation.		7 (4.4.)	16 (10.0)	94 (58.8)	43 (26.9)
It is my responsibility as the student to learn what I need to know from this simulation activity.	1 (0.6)	8 (5.0)	13 (8.1)	88 (55.0)	50 (31.3)
I know how to get help when I do not understand the concepts covered in the simulation.		10 (6.3)	17 (10.6)	96 (60.0)	37 (23.1)
I know how to use simulation activities to learn critical aspects of these skills.		10 (6.3)	35 (21.9)	95 (59.4)	20 (12.5)
It is the instructor's responsibility to tell me what I need to learn of the simulation activity content during class time.	2 (1.3)	13 (8.1)	33 (20.6)	82 (51.3)	30 (18.8)

More than half of the participants showed an aggregate of "agree and strongly agree" levels for most items of satisfaction and self-efficacy. The Mean and standard deviation of student satisfaction are 74.75 ±12.073, self - efficacy 77.23 ± 10.247.Results indicated that they were highly satisfied with the teaching methods used in this simulation and method is effective 103 (64.4%) and the teaching materials used in this simulation were motivating and helped me to learn 102 (63.8%). Majority of participant were able to obtain the required knowledge and skills to perform necessary tasks in clinical practice 114 (71.3%).

Table 2 : Level of simulation practice of Nursing students

n =160

Simulation practice	Strongly Disagree f (%)	Disagree f (%)	Undecided f (%)	Agree f (%)	Strongly Agree f (%)

I had the opportunity during the simulation activity to discuss the ideas and concepts taught in the course with the teacher and other students.	1 (0.6)	12 (7.5)	32 (20.0)	99 (61.9)	16 (10.0)
I actively participated in the debriefing session after the simulation.		18 (11.3)	27 (16.9)	99 (61.9)	16 (10.0)
I had the opportunity to put more thought into my comments during the debriefing session.		20 (12.5)	39 (24.4)	94 (58.8)	7 (4.4)
There were enough opportunities in the simulation to find out if I clearly understand the material.		17 (10.6)	27 (16.9)	100 (62.5)	16 (10.0)
I learned from the comments made by the teacher before, during, or after the simulation.		11 (6.9)	15 (9.4)	108 (67.5)	26 (16.3)
I received cues during the simulation in a timely manner.		11 (6.9)	31 (19.4)	102 (63.8)	16 (10.0)
I had the chance to discuss the simulation objectives with my teacher.		11 (6.9)	30 (18.8)	99 (61.9)	20 (12.5)
I had the opportunity to discuss ideas and concepts taught in the simulation with my instructor.	1 (0.6)	12 (7.5)	26 (16.3)	96 (60.0)	25 (15.6)
The instructor was able to respond to the individual needs of learners during the simulation.		8 (5.0)	25 (15.6)	99 (61.9)	28 (17.5)
Using simulation activities made my learning time more productive.	2 (1.3)	7 (4.4)	22 (13.8)	101 (63.1)	28 (17.5)
I had the chance to work with my peers during the simulation.		12 (7.5)	16 (10.0)	102 (63.8)	30 (18.8)
During the simulation, my peers and I had to work on the clinical situation together.		11 (6.9)	18 (11.3)	101 (63.1)	30 (18.8)
The simulation offered a variety of ways in which to learn the material.		12 (7.5)	22 (13.8)	108 (67.5)	18 (11.3)
This simulation offered a variety ways of assessing my learning.	1 (0.6)	14 (8.8)	19 (11.9)	106 (66.3)	20 (12.5)
The objectives for the simulation experience were clear and easy to understand.	1 (0.6)	14 (8.8)	24 (15.0)	96 (60.0)	25 (15.6)
My instructor communicated the goals and expectations to accomplish during the simulation.	2 (1.3)	7 (4.4)	28 (17.5)	91 (56.9)	32 (20.0)

Participants were strongly perceived that the simulation offered a variety of ways in which to learn the material and they learned from the comments made by the teacher before, during, or after the simulation 108 (67.5%). More than half of the participants were perceived that the simulation offered a variety ways of assessing their learning 106 (66.3%) and simulation activities made their learning time more productive 101 (63.1%).The Mean and standard deviation of perceived simulation practices is 75.36 ± 8.901.

The spearman's test indicated that student satisfaction had a statistically significant correlation with self - efficacy (r = 0.489) and simulation practices (r = 0.433) at p value <0.01.

DISCUSSION

Current study revealed that the participants were highly satisfied with teaching methods and teaching materials used in the simulation were helpful and effective and did motivate them to learn as per their preference.

The participants were had high degree of self - efficacy in performing their clinical skills; with evidence of participants were agreed that the instructors used helpful resources to teach the simulation and participant knows how to get help when they do not understand the concepts covered in the simulation. The participant perceived that the simulation offered a variety of ways to learn and raised the self confidence as such learning was considered as self responsibility to promote adult learning pattern. The findings were in line with opinions of Birkhoff & Donner, 2010; Halamak, 2008, Simulation training is a demonstrated method to effectively build confidence, critical thinking skills, and recreate a clinical scenario in a non threatening environment.

The result of this study is also congruent with studies done by Tagwa Omer ,2016, Saudi Arabia. Participants indicated that they have high level of self-confidence in their abilities to conduct, appropriate health assessments and perform effective intervention.

The overall simulation based education level of satisfaction 58.10%, self -efficacy 56.90% and perceived practice 55.00 %. The similar studies were conducted by Gudayu, T., Badi, M., & Asaye, M. 2015, and results revealed that the proportion of satisfaction and confidence in simulation learning was 54.2% and 50.7% among participants, respectively.

Conclusion and recommendation

Simulation is considered an effective solution to replace some real-life clinical exposure hour as nursing and other health professionals' programs are facing challenges of inadequate clinical learning opportunities (Miller K, 2014). The level of self efficacy, satisfaction and perceived simulation practices among diploma nursing students are high. This study indicated that using simulation as a strategy for teaching and simulation can help to bridge the gap between academic and clinical performance.

Conflict of interest

The authors have declared that they have no competing interests.

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