KDU Journal of Multidisciplinary Studies (KJMS)
Volume 1. Issue1, 2017

KJMS 2017 VOL.1 (1): 80-86

PERCEIVED LEVEL OF CLINICAL COMPETENCY AMONG GRADUATE NURSING STUDENTS IN EASTERN UNIVERSITY, SRI LANKA: A COMPARATIVE STUDY BETWEEN MALE AND FEMALE STUDENTS

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ABSTRACT

Background: The contemporary health professional education greatly emphasizes on competency based education. Clinical skill is an essential competency of Bachelor of Science (BSc) in Nursing programme. Clinical competencies of nursing students should be assessed before graduation, and it is important to shorten their length of orientation to work. Eastern University, Sri Lanka (EUSL) is one of the national higher educational institutes that provides graduate nursing education in Sri Lanka. At present, four batches have graduated from EUSL. However, the nursing students' clinical competencies have not been assessed yet.

Aim: to assess the nursing students' clinical competency and its gender difference at EUSL.

Methodology: This descriptive study was conducted in 2017 with the use of clinical competency questionnaire (CCQ). The CCQ incorporated nursing clinical competencies are in three forms as General Nursing Skill, Core Nursing Skill and Advanced Nursing Skills. Final year nursing students (fifth batch) participated in this study. The scores of CCQ statements were converted into continuous variables and summarized as means. The t-test was used to compare the students' clinical competency with the gender.

Result: The overall CCQ score was 4.10. It indicated that the students are having a positive level of confidence in their clinical competency. Meanwhile, the advance nursing skill is identified as the weakest area. Furthermore, the male nursing students perceived high competency in Advanced & Core Nursing Skill. Anyhow, the overall mean CCQ score is not statistically varied with gender. In future, research studies are needed to assess the nursing students' clinical competency by the feedback of mentors, clinical instructors, colleague and supervisors.

KEY WORDS: *competency based education, clinical competency questionnaire, nursing education, eastern university, Sri Lanka.*

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1 INTRODUCTION

The contemporary health professional education greatly emphasizes on competency based education (Zieber et al., 2014). Competencies are the indicators of successful performance in particular situations, and also it is an intricate mixture of attributes such as knowledge, skill and attitudes (Gonczi, 1994). Clinical competency is an essential outcome of Bachelor of Science (BSc) in Nursing programme. There are several descriptions made by different organizations for nursing clinical competency.

The National Council of State Boards of Nursing defined the nursing clinical competency as capable application of knowledge, interpersonal decision-making and psychomotor skills expected for the practice role (Kenward & Zhong, 2006). Meantime, The Board of Nurse Examiners for the State of Texas (2017) described competency as an effective demonstration of the knowledge, judgment, skills and professional values derived from nursing education by the time of graduation. The Institute of Medicine (2004) stated that, the nurses' clinical competency plays a significant role in providing patients with safe care. Therefore, nurses should have competencies in performing clinical skills, using resources, applying theoretical knowledge to patient care and managing workload.

Nurse is an essential member of the collaborative health-care team. Bedsides care is mostly delivered by nurses in a curative setting. Nursing malpractice is a threat to the patient life. A survey in 2003 revealed that, 49% of newly recruited nurses were involved in patient care error and 75% of them were involved in medication error (Smith & Crawford, 2003). Fero et al. (2009) revealed that the level of clinical competency of a new graduate nurse is comparably less than that of an experienced nurse.

Shortage of nurses is a global issue in the world of healthcare. Fresh graduates are hired to solve this critical situation. The healthcare employers expect competent clinical skill from nursing graduates at the entry time of their jobs (Burns & Poster, 2008). Therefore, the nursing educational institutes are facing the challenge of producing graduates with adequate clinical competency to meet the healthcare needs of the world.

Furthermore, nursing education experts have suggested that clinical competency assessment among nursing students should take place before graduation to shorten the length of clinical orientations for new graduate nurses after they enter the workplace (Liou & Cheng, 2013).

The modern nursing education is highly focused on standardising the students' hands on skill in professional practice. Nursing education has evolved from traditional diploma programme to university based graduate education. In Sri Lanka, the first nursing degree programme was commenced by the Open University of Sri Lanka in 1994 (Jayasekara & McCutcheon, 2006).

At present there are seven state universities conducting nursing degree programmes in Sri Lanka, namely; University of Sri Jayewardenepura, University of Peradeniya, University of Jaffna, University of Ruhuna, Eastern University, Open University of Sri Lanka and Sir John Kotelawala Defence University.

Eastern University, Sri Lanka (EUSL) is one of the national higher educational institutes that provides nursing education in Sri Lanka. The BSc in Nursing programme at EUSL commenced in 2008. At present, four batches of students have graduated from EUSL. However, the nursing students' clinical competencies have not been assessed immediately prior to their graduation. Thus, the study is aimed to assess the nursing students' clinical competency at EUSL.

1 2 METHODOLOGY

It was a descriptive cross-sectional study conducted in the Faculty of Health-Care Sciences (FHCS), EUSL during the academic year of 2017. Final year BSc nursing students (5th Batch) of EUSL were selected as the study population. Non-probability sampling method was used to collect convenience samples from the study population.

Self-administered clinical competency questionnaire (CCQ) was used to collect competencies data from students. Liou & Cheng (2013) developed and validated the CCQ to measure the perceived clinical competence of upcoming baccalaureate nursing graduates. The CCQ was developed based on Patricia Benner's "From Novice to Expert" model (Benner, 2001).

The CCQ consists of three subscales, namely: General Nursing Skills, Core Nursing Skills and Advanced Nursing Skills. The CCQ inventory consists of 31

questions, each scoring 5. The following is an approximate guide to interpreting the score: 1-Do not have a clue, 2-Know in theory, but not confident at all in practice, 3-Know in theory, can perform some parts in practice independently, and needs supervision to be readily available, 4-Know in theory, competent in practice, need contactable sources of supervision, 5-Know in theory, competent in practice without supervision (Liou & Cheng, 2013).

The general nursing skill incorporates basic nursing clinical competencies such as patient admission, assessment and monitoring. The core nursing skill consists of vital nursing clinical competencies such as drug administration and sterile nursing procedures. High order clinical competencies include advanced nursing skills such as intravenous fluid administration, venipuncture, blood transfusion and chest tube care.

All questionnaires were coded and entered into an electronic database. Data analysis was carried out using SPSS version 22. The t-test was used to compare students' clinical competency score with gender. The pilot study was conducted on eight students (out of study population) two weeks before the commencement of the main research study. Ethical clearance was obtained from the ethics review committee of FHCS, EUSL.

3 RESULTS

The final year nursing students (N=22) participated in this study. There were 15 females in the study group. The students' mean age was 25.18. The overall CCQ score was 4.10 (Table-1).

This indicates that the BSc Nursing student clinical competency can be described as "known in theory, competent in practice, need contactable sources of supervision". Anyhow, the overall CCQ score is not statistically varied with gender.

However, the advanced and core nursing skills are statistically varied with gender. The male nursing students had high confidence in advanced and core nursing skills than females nursing students (Table-1). There were totally 12 CCQ statements significantly different among gender (Table-2 & 3).

Table 1: **Nursing Students' self-evaluation of clinical competency and its subscales**

Clinical Competency Subscale	Mean CCQ Score			p-Value
	Female	Male	Overall	
General Performance	4.16	4.27	4.22	0.608
Core Nursing Skills	4.22	4.77	4.49*	0.001
Advanced Nursing Skills	3.37	4.17	3.77*	0.032
Overall	3.84	4.35	4.10	0.079

The items in * had significant p value

Thirteen General Nursing Skills were assessed in the study (Table-2). Overall CCQ mean score for most of the general performance statements (11) were between 4 to 5. Meanwhile, the lowest rating (3.79) is given for performing shift. Furthermore, providing emotional and psychosocial support is significantly varied with gender. The female nursing students have perceived high confidence in providing emotional and psychosocial support (Table-2).

Core nursing skills and advanced nursing skills were assessed in the study. In both, male nursing students perceived to have higher confidence than females (Table-1). Twelve core nursing skills and six advanced nursing skill activities were assessed. Most of the core skill activities (10) scored between 4 to 5. The two core skills, performing enema and performing tracheotomy care received ratings below 4 (Table-3).

The items in * had significant p value

Also, the mean CCQ of nine core nursing skills were significantly varied with gender, i.e. changing intravenous fluid bottle or bag, administering intravenous medications, administering intramuscular medications, performing subcutaneous injection, performing urinary catheter insertion, performing enema, performing tracheotomy care, performing nasogastric tube feeding and performing wound dressing care. Interestingly, male nursing students perceived high confidence in the above mentioned nine core nursing skills.

Table 2: **Nursing Students' self-evaluation of clinical competency in General Nursing Skill**

Clinical Competency in General Nursing Skill	Mean CCQ Score		
	Female	**Male**	**Overall**
Taking a history for new admissions	4.60	4.57	4.59
Performing and documenting patient health assessment	4.27	4.43	4.35
Answering questions for patients or families	3.87	4.57	4.22
Preventing patients from problem occurrence	3.60	4.29	3.94
Educating patients or families with disease-related care knowledge	4.40	4.29	4.34
Charting and documentation	4.00	4.00	4.00
Developing care plan for patients	4.47	4.43	4.45
Performing shift report	3.87	3.71	3.79
Performing hygiene and daily care routines	4.27	4.29	4.28
Assessing nutrition and fluid balance	4.07	4.14	4.10
Assessing elimination	4.00	4.29	4.14
Assisting activities and mobility, and changing position	4.27	4.43	4.35
Providing emotional and psychosocial support	4.47	4.14	4.30*

Meanwhile, most of the advanced skill activities (04) scored between 3 to 4. Anyhow, more than four was scored for performing venipuncture and starting intravenous injections. Also, performing venipuncture mean CCQ was significantly different among gender. The male nursing students were perceived to have high confidence in performing venipuncture (Table-3).

4 DISCUSSION

The mean CCQ score was 4.10. It indicated that the students have perceived a positive level of confidence in their clinical competency. These results are similar to the findings of a study conducted in Taiwan, in which graduate nursing students generally perceived themselves as competent (Liou & Cheng, 2013). A Finland study also revealed that nursing students self-assessed their clinical competence as good (Kajander-Unkuri et al., 2014). Brown et al. (2003) stated that the overrating may be given by some students in self-evaluation. Anyhow, the graduate nursing students are normally rating themselves as confident in clinical skill during their graduation time. But, their confidence level is gradually declining, once they enter to clinical practice (Casey et al., 2004 and Heslop, McIntyre & Ives, 2001). Overall CCQ score was high among male students. But it is not a significant difference ($p>0.05$). However, the results are based on the students' self-assessment. Therefore, future researches are needed from the viewpoint of mentors, clinical instructors, colleague and supervisors to enhance the accuracy of the hypothesis.

The basic patient care skill is incorporated into the general performance subscale. It includes skills in assessment, monitoring of patient activity & hygiene, patient & family counselling, charting & documentation and technical skills. The nursing students have perceived positive confidence in carrying out general nursing performance skill (Table-1). But, a group of Taiwan students did not have high level of confidence in performing general nursing skills. Fink et al. (2008) revealed that graduate nursing students are facing challenges in assessment and charting/documentation. In our study, lowest score was given for the general performance activity of performing shift report because, in our institution, academic activity is scheduled as morning clinical practice and evening class room activities. So, the student were not be able to complete the entire shift. Therefore, the students felt less confident in

handing over / taking over reporting. Interestingly, the female nursing students perceived high confidence in providing emotional and psychosocial support.

Core nursing skill has been assessed in this study. It included the nursing activities in drug administration and sterile procedures. The confidence level of male nursing students in performing urinary catheter insertion & care, tracheotomy care, nasogastric tube feeding & care, wound dressing care, performing enema, changing intravenous fluid bottle or bag, administering intravenous medications, administering intramuscular medications and performing subcutaneous injections are significantly higher than that of female students (Table-3).

Table 3: Nursing students' self -evaluation of clinical competency in Core and Advance Nursing Skill

Clinical Competency	Mean CCQ Score		
	Female	Male	Overall
Core Nursing Skills			
Changing intravenous fluid bottle or bag	4.67	5.00	4.83*
Administering intravenous medications (or into intravenous bags)	4.47	5.00	4.73*
Administering intramuscular medications	4.73	5.00	4.87*
Performing subcutaneous injection	4.67	5.00	4.83*
Administering oral medications	4.87	5.00	4.93
Performing urinary catheter insertion and care	3.60	4.86	4.23*
Performing sterile techniques	4.07	4.43	4.25
Performing enema	3.13	4.14	3.64*
Performing upper airway suction	3.87	4.43	4.15
Performing tracheotomy care	3.47	4.43	3.95*
Performing nasogastric tube feeding and care	4.53	5.00	4.77*
Performing wound dressing care	4.60	5.00	4.80*
Advanced Nursing Skills			
Performing venipuncture	3.87	4.57	4.22*
Starting intravenous injections	4.33	4.29	4.31
Administering blood transfusion	3.13	4.29	3.71
Performing postural drainage and percussion, and oxygen therapy	2.87	4.14	3.50
Performing preoperation / post operation care	3.40	4.29	3.84
Performing chest tube care with underwater seal management	2.60	3.43	3.01

The items in * had significant p value

In our study, specific items in the advanced nursing skills' (ANS) subscales included skills in intravenous fluid administration, venipuncture, blood transfusion and chest tube care. The mean ANS score (3.77) is the lowest score among four subscales of CCQ (Table-1). A group of Taiwan nursing students also perceived the advance nursing skill as their weakest technical skills (Liou & Cheng, 2013). Similarly, earlier studies found that new graduate nurses consider these same advanced skills as some of the most challenging procedures to perform in clinical practice (Fink et al., 2008).

The limitations of the study are the limited number of participants (Less number of students in the final year) and the study's incorporation of student's self-evaluations only.

5 CONCLUSION

The present study revealed that the BSc Nursing students in FHCS, EUSL had a positive level of confidence in their clinical competencies. However, the advance nursing procedures is identified as the weakest area, which needs further improvement. Meanwhile, the male nursing students perceived high competency in advanced & core nursing skills. Anyhow, the overall mean CCQ score is not statistically varied with according to gender.

In future, research studies are needed to assess the nursing students' clinical competency by the feedbacks of mentors, clinical instructors, colleague and supervisors.

6 ACKNOWLEDGEMENT

I would like to express my sincere gratitude to the Dean and administration of FHCS, EUSL for their immense support by granting me the permission to carry out this study. My special thanks goes to, Mr. T. Sathaananthan, Senior Lecturer, Department of Medical Education & Research, FHCS, EUSL and Ms. N. Genoosha Lecturer, Department of Supplementary Health Sciences, FHCS, EUSL for their assistance throughout the study. I would like to convey my sincere gratitude to all the students, who participated in the study.

7 REFERENCES

Benner, P. (2001): *From novice to expert*. 1st ed. N.J.: Prentice Hall.

Bon.texas.gov. (2017).: *Welcome to the Texas Board of Nursing Website*. [online] Available at: http://www.bon.texas.gov/index.asp [Accessed 15 Mar. 2017].

Brown, B., O'Mara, L., Hunsberger, M., Love, B., Black, M., Carpio, B., Crooks, D. and Noesgaard, C. (2003): Professional confidence in baccalaureate nursing students. *Nurse Education in Practice*, 3(3), 163-170.

Burns, P. and Poster, E. (2008): Competency Development in New Registered Nurse Graduates: Closing the Gap Between Education and Practice. *The Journal of Continuing Education in Nursing*, 39(2), 67-73.

Casey, K., Fink, R., Krugman, A. and Propst, F. (2004): The Graduate Nurse Experience. *JONA: The Journal of Nursing Administration*, 34(6), pp.303-311.

Fero, L., Witsberger, C., Wesmiller, S., Zullo, T. and Hoffman, L. (2009): Critical thinking ability of new graduate and experienced nurses. *Journal of Advanced Nursing*, 65(1), 139-148.

Fink, R., Krugman, M., Casey, K. and Goode, C. (2008): The Graduate Nurse Experience. *JONA: The Journal of Nursing Administration*, 38(7/8), 341-348.

Gonczi, A. (1994): Competency Based Assessment in the Professions in Australia. *Assessment in Education: Principles, Policy & Practice*, 1(1), 27-44.

Heslop, L., McIntyre, M. and Ives, G. (2001): Undergraduate student nurses' expectations and their self-reported preparedness for the graduate year role. *Journal of Advanced Nursing*, 36(5), 626-634.

Institute of Medicine (U.S.). (2004): *Insuring America's Health: Principles and Recommendations (Insuring health).* 1st ed. Washington DC: National Academies Press.

Kajander-Unkuri, S., Meretoja, R., Katajisto, J., Saarikoski, M., Salminen, L., Suhonen, R. and Leino-Kilpi, H. (2014): Self-assessed level of competence of graduating nursing students and factors related to it. *Nurse Education Today*, 34 (5), 795-801.

Kenward K, Zhong EH. *Report of findings from the practice and professional survey*. (2006): Available from:https://www.ncsbn.org/Vol_22_web.pdf

Liou, S. and Cheng, C. (2013): Developing and validating the Clinical Competence Questionnaire: A self-

assessment instrument for upcoming baccalaureate nursing graduates. *Journal of Nursing Education and Practice*, 4 (2), 56-66.

Jayasekara, R., S. and McCutcheon, H. (2006): The history of nursing services and education in Sri Lanka and the effects on developing professionalism. *Journal of Nursing Education*, 45(10), 391-395.

Smith J, Crawford L. *Report of findings from the practice and professional issues survey*. (2003): Available from: https://www.ncsbn.org/ppi_spr02_vol7.pdf.

Zieber, E., Barton, S., Konkin, J., Awosoga, O. and Caine, V. (2014): Competence and competency-based nursing education: Finding our way through the issues. *Nurse Education Today*, 34(5), 676-678.