THE IMPROVEMENT OF STUDENT COMPETENCY IN A CLINICAL STUDY IN INDONESIA: WHAT FACTORS PLAYED AN IMPORTANT ROLE?

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ABSTRACT

Background: The improvement of nursing student competency currently is still an issue for the majority of nursing education institutions in Indonesia. This is due to their partnership with hospitals having not been supported by adequate policies and other factors. **Objectives:** The purpose of this study is to identify the appropriate model for improving student competency in a clinical study. The design used in this study was an observational study with cross-sectional approach. **Methods:** The research design used a cross-sectional approach involving five hospitals and five Universities. Three hundred and eighty-four participants were recruited from these sites. The data was analysed using multiple logistic regression. **Results:** The results showed that the partnership contributed 3.36 times, the patient variations 2.96 times, the job description of the clinical educator 2.30 times, a role model 2.28 times, and the expertise of the faculty educator 2.08 times towards the achievement of student competency in the clinical study. **Conclusions:** It can be concluded that the partnership aspect, patient variation, job description of the clinical educator, role model, the expertise of the faculty educator, and the level of education has a significant role to improve the achievements coming from the level of student competency in the clinical study. The results of this study can be used by nursing educational institutions, hospitals and the government to organise a nursing education model for the more optimal achievement of the student's competencies.

Keywords: partnership, nursing education, competence, hospitals

INTRODUCTION

The Indonesian Hospital Association in 2012 recorded a number of hospitals throughout Indonesia, as many as 1979, with the average annual growth being around 1.14% (Azhary, 2009). The constraints faced by the hospitals includes the lack of competent health resources. This includes the number of nurses, high investment costs, geopolitical issues and public perception. This is still low in relation to the quality of the health services in Indonesia (Azhary, 2009). The growth of the number of hospitals was also followed by a rapid growth in the nursing education institutions (Kurniati and Efendi, 2012). The final report in 2011 from The Health Education Project-Directorate General of Higher Education mentioned that the number of nursing education institutions at a Master's degree level had increased to 12 institutions, and the number of professional education institutions had increased to 112 institutions. The existence of nursing education has not been matched by an adequate arrangement of practices in hospitals, clinics, public health centres, homes for the elderly and the community (AIPNI, 2010). Besides that, the existence of nursing education has not been matched by an increase in the quality and quantity of the lecturer (AIPNI, 2010).

The large number of nursing institution education practices compared with the practice availability currently is still a complicated issue (Myrick and Yonge, 2002). The problem is that the management of clinical education is still poor and the coordination of the achievement of the learning objectives for the students is not going well (Nursalam and Efendi, 2008). The weak management of nursing education is drawn from the results of a survey conducted by The Association of Indonesian Nurses' Educational Institutions and the Indonesian National Nurses Association in 2010 among 33 provinces, which showed that 90% of nursing education had not met the standards of nursing education provision (Health Professional Education Quality-Project, 2011). Education institutions require hospitals to

increase their knowledge and to enhance the skills of students (Canadian Nurses Association, 2014). The hospital requires educational institutions to develop science to improve the quality of care (Davis and Irvine, 2003). One of the problems found in Indonesia is that the hospitals are not capable of facilitating clinical practice to increase the student's competence optimally. This is characterised by weak policy support, a low awareness of the values of partnership and joint ownership, the limited human resources of both parties, and the lack of an ideal nursing practice model and the development of the nursing profession (AIPNI, 2010). The students are often confused when practicing in a hospital because of the unfamiliar situations encountered in hospitals (Myrick and Yonge, 2005; Flanagan, Baldwin and Clarke, 2000). This condition causes the nursing students to find it difficult to develop their professional abilities because the clinical study environment has not been well-established previously (Al-Hussami *et al.*, 2011). Therefore, this situation encourages the researchers to design a clinical learning model that emphasises partnerships between hospitals and educational institutions to obtain an optimum competence level to do with clinical study. This research study combines the Practice-Research Model of Curtin University of Technology (2001) and the Collaborative Clinical Education Epworth Daekin Model (2003) with the theoretical approach of King's Goal Attainment (Alligood & Tomey, 2002). The purpose of this study was to identify the appropriate model for improving student competency in a clinical study.

MATERIALS AND METHODS

The research was conducted in January-September 2013 by a cross-sectional design approach involving five hospitals (Fatmawati Hospital Jakarta, Hasan Sadikin Hospital Bandung, Kariadi Hospital Semarang, Sardjito Hospital Yogyakarta, and Soetomo Hospital Surabaya) and five universities (Universitas Muhammadiyah Jakarta, Universitas Padjadjaran Bandung, Universitas Gadjah Mada Yogyakarta, Universitas Diponegoro Semarang, and Universitas Airlangga Surabaya). The research consisted of variables and demographics such as sex, age and education; support; faculty staff; mastery of the curriculum, the suitability of expertise and provide study guidelines; the fundamental values of collaboration; collegial partnership and collegial ownership; the availability of clinical learning resources; variations inpatient case, clinical facilities, libraries and standards of practice; nurse clinics; support facilities, nursing management, working conditions, career opportunities, job descriptions and role models with the last variable being the achievement of student learning competencies. The research instrument was validated through testing of validity (content and construct) and reliability (Hastono, 2001; Pratiknya, 2011). This research was done to prove that the variables that have been identified are instrumental in shaping a model for improving student competency in a clinical study in a hospital. The process modelling was done using multiple logistic regression as a method for obtaining the statistical relationship between several independent variables and the dependent variable with special features in the form of dichotomous dependent variables (Hastono, 2001; Tabachnick and Fidell, 2001; Supranto, 2004). Prior to this analysis, the researcher selected the candidate variables by conducting a bivariate test.

All of the respondents signed the consent agreement which was conducted voluntarily. This research was approved by the Ethics Committe of Faculty of Nursing Universitas Indonesia and The Health Research Ethics Committee of the Medical Faculty at Diponegoro University. This study also obtained the permission of five hospitals and five universities where the research was conducted.

RESULTS

The demographic aspects showed that there was a high percentage of women (76.8%) with 24.5% age range between 35-40.9 years old. Respondents' higher education made up 64.8% of Nurse graduated with 71.1% of the learner's competence are high (Table 1). Univariate analysis of all of the variables showed that the policy support to the use of a hospital as a clinical study was high at 69%,

Table 1. Details of the variables and respondents (n=384)

Variables	n	%
Gender		
Male	89	23.2
Female	295	76.8
Age		
<35) yrs	92	24
35 – 40.9 yrs	94	24.5
41 – 44,9 yrs	72	18.8
≥ 45 yrs	126	3.8
Education		
Ners	249	64.8
Graduate/Specialist	132	34.4
Doctor	3	0.8
Learners competence		
Low	111	28.9
High	272	71.1
Policy support		
Low	119	31
High	265	69
Faculty members		
Mastery of curriculum		
Low	175	45.6
High	209	54.4
Study guides		
Low	166	43.2
High	218	56.8
Expertise		
Low	172	44.8
High	212	55.2
Values		
Peer partnership		
Low	112	29.2
High	272	70.8
Peer ownership		
Low	186	48.4
High	198	51.6
Hospital facility		
Cases variation		
Low	164	42.7
High	220	57.3
Clinic facility		
Low	92	24
High	292	76
Library		
Low	139	36.2

High	245	63.8
Standard practice		
Low	46	12
High	338	88
Clinical Nurse		
Facility support		
Low	205	53.4
High	179	46.6
Nursing management		
Low	101	26.3
High	283	73.7
Working condition		
Low	214	55.7
High	170	44.3
Career Opportunity		
Low	173	45.1
High	211	54.9
Clarity of job descriptions		
Low	115	29.9
High	269	70.1
Role model		
Low	197	51.3
High	187	48.7

Table 2 - The results of the variable selection of candidates

Variables	p-value
Sex (CC)	1.000
Age (LR)	0.319
Education (LR)	0,001
Clinical Facilities (CC)	0.037
Nursing Management (CC)	0.017
Standard of Competency (CC)	0.677
Role Model (CC)	0.009
Job Description (CC)	0.001
Career (CC)	0.001
Working Conditions (CC)	0.050
Policy Support (CC)	0.084
Curriculum (CC)	0.001
Compliance of Expertise Staff (CC)	0.001
Learning Guide (CC)	0.001
Peer Partnership (CC)	0.001
Peer Ownership (CC)	0.004
Variation of Case (CC)	0.001
Hospital's Library (CC)	0.004
Support Facilities (CC)	0.021

Note: CC= *Continuity Correction*, LR=*Likelihood Ratio*

Table 3 - Multiple logistic regression analysis of the achievement of student competence

Variable	B	S.E.	Wald	Df	Exp (B)
Suitability and expertise of Faculty Staff	0.733	0.282	6.744	1	2.08**
Peer Partnership	1.215	0.272	19.993	1	3.36***
Variation of Case	1.086	0.266	16.670	1	2.96***
Job Description	0.802	0.282	8.092	1	2.23**
Role Model	0.824	0.280	8.662	1	2.28**
Education			4.991	2	
Education(1)	-0.594	0.280	4.495	1	0.55**
Education(2)	-1.113	1.296	0.737	1	0.32
Constant	-1.431	0.359	15.911	1	0.23***

*$p<0.05$, **$p<0.01$, ***$p<0.001$.

while mastery of the curriculum to achieve the specified competencies was 54.4% high. Study guides provided by the faculty were only at 56.8% high, expertise and skills made up 55.2%, peer partnerships 70.8% high, peer ownership 51.6% high, and variations in the cases at 57.3% were categorised as high. Clinic facilities were at a 76% high, libraries were at a 63.8% high, 88% were working at more than the level of standard practice, the support facilities made up 53.4% of high, the implementation of nursing management 73.7% high, working conditions 55.7% low, career opportunities 54.9% high, 70.1% was made up by clarity of the job descriptions being high, and role models were at a 51.3% low.

The selection of the candidate variables used for multiple logistic regression with the chi-square test has been shown in Table 2. Most of the identified variables have been entered as candidate variables except for gender and age. Competency standards has not been included in the multiple logistic regression because it have a value of $p \leq 0.250$.

The final results showed that the variables that contributed to the achievement of the student competencies in the clinical study was partnerships, the expertise of the faculty staff, patient variation, the job description, role models and education (Table 3).

The elements of the collaborative models that have a strong role in relation to the achievement of student competence were role models, job description clarity, suitability, the expertise of the faculty staff, peer partnership values, the availability of a variety of cases and education. The most dominant factor is the peer partnership variable. The suitability and expertise of the faculty staff were 2.08 times more likely to relate to the achievement of competence. The value of peer partnership has 3.36 times to relate to the attainment of competence. The availability of the variation in cases in the clinic 2.96 times relates to the achievement of competence. The job description of the clinical nurse relates by 2.23 times and is significantly associated with the achievement of competence. Role models in the clinic are 2.28 times related and significantly associated with the achievement of competence in the learners. Meanwhile the education up to Master's degree, specialist and doctoral level negatively related to the achievement of student competence. The analytical statistics found out that there were no interaction between the role models and job description. The statistical test also found out that the variable of education was not a confounding variable.

DISCUSSIONS

Partnership between the hospitals and educational institutions is a necessity as a way to increase student competence. Educational institutions play a role in improving the quality of students from the aspect of knowledge, skills and attitudes (Canadian Nurses Association, 2014; Billings and Halstead, 2012). The hospital serves the student as a way to apply knowledge,

training skills and to give them information about the development of knowledge in the hospital context (Grove, Burns and Gray, 2013; Mantzorou, 2004). The policy on educational partnerships with hospitals is effectively used to address health disparities issues, thus requiring all health services in an appropriate partnership to address wider health problems (World Health Organization, 2001, 2010; Canadian Nurses Association, 2014).

The variety of cases in the hospital played an important role in the achievement of student competence. Students, in handling varied cases in nursing, are encouraged to be able to formulate nursing diagnoses with various cases (Chickerella and Lutz, 2010). The more varied cases encountered by the students is a way of increasing their ability to formulate the problem, and the actions that will subsequently be applied. For a clinical educator, the variations in the patient cases will guide the students to think about different aspects. The students not only focus on the completion of the main problem, but think about some of the problem's details simultaneously (Myrick and Yonge, 2002).

The clarity of the job description as a form of clinical educator provides convenience for the nurses that work in the hospitals to play two roles. The first role is to provide quality nursing care. The second role is to provide guidance to students who utilise the hospital where they work to train their clinical skills (Cherry and Jacob, 2014) The arrangement of the job description is important in order for the clinical educator to play both roles. The arrangements of the job description also provide comfort for the clinical educators and are a form of respect for them because it's how they show they are a good nurse (Burns et al., 2006). In this research, the results show that the duty of clinical educator is an important factor that contributes to the achievement of the student's competence (Chickerella and Lutz, 2010).

The role model in this research plays an important role in the achievement of student competence (Bott, Mohide and Lawlor, 2011). Currently, there is a lack of role models in nursing care (AIPNI, 2010). Clinical nurses who are able to act as a role model have not been found much (Health Professional Education Quality-Project, 2011). However, these factors are important to achieving student competence. The literature has shown that the clinical educator is a role model, mentor, and a mirror for the students. How to speak, act and behave, listen, work, and to make a decision in a specific situation in the nursing service would be an example for the students (Adelman-Mullally et al., 2013; Canadian Nurses Association, 2014; Kim and Shin, 2017). The need of role model was compulsory in order to enhance the best outcome of student competency.

The expertise of the clinical educators and faculty is one of the factors that plays an important role in the achievement of student competencies (Myrick and Yonge, 2002). Clinical educators and the faculty staff are registered nurses who have special training or sufficient education to serve as a role model, resource and mentor for nursing students (Yonge et al., 2012). They prepare the students to achieve a particular competence accordance to the hospital's goals. Nurse educators have a unique and important role in the educational process of the nursing profession (Myrick and Yonge, 2005). These findings further support the idea of the critical role of capable clinical educators and faculty members.

CONCLUSIONS

The results of this study have concluded that the model for the improvement of student competency includes partnerships, expertise, and suitability faculty staff, the availability of variation in the cases in the clinic, the job description of the clinical nurse, role models and the education of the clinical and faculty educators. These findings suggest that student competencies in the clinical phase should take into account the complex healthcare environment. Improvement can be made by targeting the identified factors that may contribute to the better achievement of student competency.

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