Nurse Education Today 34 (2014) 795–801

Contents lists available at ScienceDirect

Nurse Education Today

journal homepage: www.elsevier.com/nedt

Self-assessed level of competence of graduating nursing students and factors related to it

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ARTICLE INFO

Article history:
Accepted 19 August 2013

Keywords:
Competence
Graduating nursing student
Learning environment
Nurse Competence Scale
Self-assessment

SUMMARY

Background: The transition from a nursing student to a professional nurse is both challenging and stressful. Competence of graduating nursing students is related to patient safety and there is a need for assessment of competence. However, there is a lack of research on the level of competence at the moment of graduation.
Objectives: To describe the level of competence of graduating nursing students based on students' self-assessments and to identify possible related factors.
Design: Cross-sectional survey design.
Methods: The data were collected using an on-line survey (the Nurse Competence Scale) in 2011 and administered to 302 graduating nursing students in Finland practicing in their final clinical placement in university hospitals. The sample contained 154 students (response rate 51%). The data were analyzed statistically.
Results: The self-assessed overall competence was on good level (66.7, VAS 0-100). The competence was highest in helping role and in diagnostic functions, being slightly lower in therapeutic interventions and work role. Pedagogical atmosphere during the final clinical placement had a statistically significantly positive correlation with the overall level of competence.
Conclusions: Graduating nursing students have good competence at the moment of graduation based on their self-assessments. Self-assessment is a basis for competence development, and systematic self-assessments should be used during the education. Teacher and supervisor assessments and knowledge-tests could be used alongside with self-assessments of competence to give a wider picture of the competence.

Introduction

Upon graduating, nursing students are expected to have adequate competence to be able to fulfill their duties safely and effectively. The competence of graduating nursing students (hereafter students) is related to professional standards, patient safety and the quality of nursing care, and there is a need for assessment of competence in health care (WHO, 2008). In the literature, there are studies concerning nurses' level of competence (e.g. Meretoja et al., 2004a; Cowan et al., 2007; Andrew et al., 2008), but only few studies report the level of competence near the moment of graduation (e.g. Bartlett et al., 2000; Hengstberger-Sims et al., 2008; Wangensteen et al., 2012).

The transition from a nursing student to a professional nurse is both challenging and stressful (Clare and van Loon, 2003; Mooney, 2007). The term "reality shock" by Kramer (1974) describes the transition from student to qualified nurse by three phases, as well as the conflict between the qualification expectations and the actual reality of work. According to previous studies, 13% to 30% of new nurses have changed jobs after the first year (Bowles and Candela, 2005; Kovner et al., 2007), and this trend is in evidence throughout Europe (Flinkman et al., 2008; Aiken et al., 2012). The awareness of nurse responsibility differs between students and graduated nurses (Wangensteen et al., 2008), and recently registered nurses are not prepared for this responsibility (Ross and Clifford, 2002).

The aim of this study was to describe the level of competence of students at the moment of graduation based on students' self-assessments and to identify possible factors related to competence. The verification of the level of competence of students at the moment of graduation is part of quality assurance of nursing education. The results of this study are useful for developing the curricula of nursing education and new nurses' practical work orientation and mentorship programs aimed to reduce intentions to leave nursing.

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http://dx.doi.org/10.1016/j.nedt.2013.08.009

Background

The concept of competence in nursing is multidimensional (Meretoja et al., 2002; Watson et al., 2002; Cowan et al., 2005). In the literature, competence in general has been defined in terms of "the ability to perform the task with desirable outcomes under the varied circumstances of the real world" (Benner, 1982, p. 304). In this study, competence is defined in terms of functional adequacy and the capacity to integrate knowledge, skills, attitudes and values in specific contextual situations of practice (Meretoja and Leino-Kilpi, 2003) and competence is seen as an outcome of general nursing education.

There are only a few generic instruments to assess nurse competence based on self-assessments (Meretoja and Leino-Kilpi, 2001; Watson et al., 2002; Yanhua and Watson, 2011). Nurse Competence Scale (NCS) is an instrument allowing comparison across countries and cultures. The categories of NCS were derived from Benner's competency framework (Meretoja et al., 2004b). The NCS has been developed for practicing nurses and has been used in different clinical fields in different countries, where it has proven to be sensitive in differentiating competence levels with a wide range of work experience (e.g. Meretoja et al., 2004a; Cowin et al., 2008; O'Leary, 2012). It has also been used for recently graduated nurses (Hengstberger-Sims et al., 2008; Wangensteen et al., 2012).

There is research about the competence of students during education (e.g. Clark et al., 2004; Ulfvarson and Oxelmark, 2012) and about specific competencies, such as intensive care nursing (Ääri et al., 2004), hand hygiene (Cole, 2009), cultural competence (Sargent et al., 2005) and vaccination competence (Nikula et al., 2011), but there is little research of the overall level of competence at the moment of graduation (Table 1). Age, length of work experience (e.g. Meretoja et al., 2004a,b; O'Leary, 2012), work environment and preceptorship are related to competence development of nurses (Salonen et al., 2007), and supervision increased the overall perceived competence of students (Kim, 2007). Supervision of students by staff nurses is of prime importance to the students' learning and professional development in clinical placement (Allan et al., 2008; Warne et al., 2010; Chuan and Barnett, 2012). The importance of clinical experience during education is undisputed as a key to professional competence (Kline and Hodges, 2006). During their final clinical placement students realize that they will soon be responsible and accountable for their own practice as qualified nurses.

The Study

Aim

The aim of this study was to describe the level of competence of students at the moment of graduation based on students' self-assessments and to identify possible factors related to competence. Two research questions were answered:

1) What is the level of competence of students based on their self-assessments?
2) What factors are related to the level of competence?

Design

The study design was a cross-sectional survey design using a structured questionnaire.

Sample

This study was conducted in Finland, where nurse education (bachelor degree, 3.5 years) is carried out in 23 polytechnics (21 and 2 polytechnics with education given in Finnish and Swedish languages, respectively). The content of nurse education is determined on the basis of EU directive 2005/36/EC (European Commission, 2005; Ministry of Education, 2010, 2011). The target population was students practicing in their final clinical placements in university hospitals in Finland. This group was selected because there is evidence that young nurses leave nursing quite early (Clare and van Loon, 2003; Flinkman et al., 2008), which is why all information aimed at developing retention strategies is needed.

Approximately 2200 students graduate every year in Finland (Ministry of Education and Culture, 2012); approximately 400 of them have their final clinical placement in university hospitals. When planning the study, a power analysis was done (power = 0.90, alpha = 0.05, effect size = 0.1) commensurate with the number of categories of background variables. The power analysis revealed a need for 148 respondents for the study. Four university hospitals (out of five) were selected for the study because of their mutual similarity (bed number, staff number and treatment periods; THL, 2011). Based on the information from contact teachers at each polytechnic, there were 302 students from 14 polytechnics practicing in their final clinical placement in these university hospitals; all these students were invited to the study. The sample contained 154 students (response rate 51%) and they represented 9 polytechnics.

Data Collection

Data were collected in February–December in 2011 from students during their final week of final clinical placement using an on-line survey. The contact teachers sent the study information letter with the internet-link of the survey to the students by e-mail and students answered anonymously. The contact teachers also sent two reminders, two and four weeks after first contact.

Instruments

The instrument used was the Nurse Competence Scale (NCS; Meretoja et al., 2004b). The NCS has been developed for practicing nurses (Meretoja et al., 2004b) and has also been used for recently graduated nurses (Hengstberger-Sims et al., 2008; Wangensteen et al., 2012). In this study, the NCS was used for the first time to assess the competence of students. The NCS consists of 73 items structured in seven competence categories: helping role (7 items), teaching–coaching (16 items), diagnostic functions (7 items), managing situations (8 items), therapeutic interventions (10 items), ensuring quality (6 items) and work role (19 items). Each item is rated by using a Visual Analog Scale (VAS) from 0 to 100 (0 = low competence; 100 = high competence) and for descriptive purposes, the VAS is divided into four parts to represent the level of competence as low (0–25), rather good (>25–50), good (>50–75) and very good (>75–100) (Meretoja et al., 2004b).

The competence-related factors investigated were: 1) student's age, 2) gender 3) pre-education, 4) during education, 5) post-education, 6) nursing education-related, 7) supervision and 8) learning environment (Table 2). Two sub-dimensions of the Clinical Learning Environment and Supervision (CLES; Saarikoski and Leino-Kilpi, 2002; Saarikoski et al., 2008) were used as part of competence-related factors: supervisory relationship (8 items) as part of supervision and pedagogical atmosphere on the ward (9 items) as part of learning environment. Each item is rated by using a scale from 0 to 10 (0 = extremely bad experience; 10 = extremely good experience).

Ethical Considerations

The ethics committee of the university gave ethical approval for the study, and study permissions were obtained from every polytechnic providing nursing education in Finnish (n = 21). All data were handled anonymously. Respondents agreed to participate after receiving written information about the study. Answering the on-line survey was assumed