Perceptions of New Graduate Nurses Regarding Their Competence in Nursing Skills

Yeni Mezun Hemşirelerin Hemşirelik Becerilerinde Yetkinlikleri ile İlgili Algıları

(Araştırma)

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ABSTRACT

Amaç: Bu tanımlayıcı ve kesitsel çalışma yeni mezun hemşirelerin hemşirelik uygulamaları için gerekli olan özgün yeterliklerini ve ayrıca eğitim gereksinimlerine yönelik algılarını belirlemek amacıyla gerçekleştirilmiştir.

Yöntem: Bir üniversite hastanesinde yeni mezun olarak işe başlayan 124 hemşirenin verisi 1 Ocak 2008 ve 30 Aralık 2008 tarihleri arasında toplanmıştır. Veri toplamak için Klinik Uygulamalarda Kendi Kendini Değerlendirme Formu kullanılmıştır. İşe başladıktan 2 gün sonra hemşirelere klinik sorumlu hemşiresi tarafından bu form açıklanmıştır.

Bulgular: Hemşireler kendilerini yaşam bulguların alınması ve el yıkama ile ilgili ölçümlerde en yetkin ve elektronik araçların kullanımı ve mekanik ventilasyondan bir hastanın ayrılmasında en az yetkin olarak hissetmişlerdir.

Sonuç: Yeni eğitim almış olan hemşireler bir çok spesifik alanda kendilerinin yetersiz olarak hazırlandıklarını algılamışlardır. Bu hemşireler için profesyonel eğitimin sağlanılmasında hastaneler ve eğitim kurumları arasında iletişimin sürdürülmesi gereksinimini vurgulamaktadır.

Key Words: *Competency, new graduated nurses, perception*

ÖZET

Objective: This descriptive and cross-sectional study was planned to investigate the perceptions of newly graduated nurses regarding their specific competences in a range of nursing practices and their needs for further training.

Method: Data were collected between January 1 2008 and December 30 2008 for 124 newly graduated nurses starting work at a university hospital. The Clinical Practices Self-Assessment Tool was used for data collection. The senior ward nurse issued the tool to the nurses and explained the aims of the study 2 days after they first started work.

Result: The nurses felt themselves most competent in the measurement of vital signs and hand washing, and least competent in disconnection of patients from mechanical ventilation and in the use of electronic devices.

Conclusion: Newly trained nurses perceived themselves to be insufficiently prepared in several specific areas; this highlights the need for ongoing dialog between hospitals and educational establishments providing professional training for nurses.

Anahtar Kelimeler: *Yeterlik, yeni mezun hemşire, algı*

Introduction

Wide variations have been reported between different healthcare systems in terms of patient safety and quality of care[1]. An important factor contributing to such variation concerns the competence of nurses in making independent decisions regarding the assessment and nursing treatment of hospitalized patients. However, healthcare delivery is becoming progressively more complex and, furthermore, the current shortage of nurses is obliging an increasing number of hospitals to recruit new graduate nurses directly into specialty areas such as critical care units[2].

It is important to provide training for new nurses both in background theory and in the practical performance of their duties. Importantly, the education and clinical preparation of nurses should provide the skills necessary to allow new graduates to practise safely.[3] However, new nurses generally have only limited experience of hospital settings because their nursing education only permits brief exposure to the complex hospital environment[2].

Nursing graduates are expected to be competent in a range of skills including physical assessments, wound care, management of tubes and drains, positioning, medication administration, management of intravenous (IV) therapy, chest physiotherapy, suctioning and airway management, patient instruction, infection control, and safety[4,5].

Several earlier studies have examined the first working experiences of newly graduated nurses. Factors reported to be sources of particular stress for new graduates include the management of patients with complex conditions, lack of personal support, a non-supportive clinical environment, heavy workloads, and sudden increases in responsibility[6-9]. It is therefore important to provide appropriate support to new nurses so as to decrease work-associated stress, improve job satisfaction, and increase their competence and confidence.[10,11] Newly graduated nurses felt they were unable to take independent decisions, particularly in complex clinical practices, without advice and guidance from their more experienced colleagues[12-14]. Tabari-Khomeiran et al.[15] suggested that the competence and skills of new nurses following graduation should be subject to ongoing improvement and development through planned interactions with other professionals in their field of practice.

Many hospitals have developed systems for providing support to new nurses, but the specific training needs for each individual nurse are not often evident[16]. For this reason support systems run the risk of not covering the actual needs of the nurses while consuming costly resources[17]. Hospitals have therefore adopted procedures for assessing the specific skills of new nurses, for example in critical thinking, communication skills,

and medication administration, thus permitting the allocation of resources to the provision of appropriate remedial training.

New graduate nurses now make up more than 10% of the nursing staff of hospitals and of other healthcare providers[18]. Hospitals are estimated to spend between $15,000 and $75,000 per new graduate nurse on training programs to prepare the new nurses for their specific units[16,19,20]. From the perspectives of both safety and cost it is therefore crucial to determine the specific strengths and weaknesses of new graduate nurses so as to facilitate their transition from university to practice. Employers generally assess the initial competence of all new employees, and this allows in-house training to focus on specific areas, thereby reducing costs. Investment in such additional training improves the skills and competences of new nurses, with further benefits in terms of increased job satisfaction and reduced staff turnover[21,22].

Aims

The aim of this study was to identify the perceptions of graduated nurses concerning their specific competences in a range of nursing practices and their needs for further training. In addition, this study sought to identify additional core competencies for nursing education and practice.

Material and Method

This study is descriptive and cross-sectional.

Sample

Between January 1 and December 30 2008 a total of 337 nurses were employed in the hospital, of whom 48% had been working less than 1 year. Recruited to this study were 124 nurses who had recently graduated from university providing professional nursing training and who were entering employment in the hospital. This study was approved by the hospital ethical committee.

Data collection form

In this study, a data collection form 'Clinical Practices Self-Assessment Tool for New Nurses' was used to determine the levels of competence and training needs of new nurses. The form was designed by the nursing management of the hospital in 2007 and addressed the most common nursing practices. Following feedback the form was revised in 2008. This form was given to all nurses when they started employment in the hospital.

In addition to five questions concerning the socio-demographic and professional characteristics of the nurses, the tool included 14 main subject categories and 205 nursing practices. Issues relating to organization, communication and administration were not addressed in the present study. The main categories concerned patient admission and discharge, general nursing practice (including patient examination, cooling and warming, and bed preparation), hygiene, use of medical devices, equipment and machines, medication and fluid/volume measurements, administration and

monitoring of blood and blood products, perioperative care, assisting biopsy/aspiration, infection control, patient transfer and positioning, and cardiopulmonary resuscitation (CPR). Three answer options were available for each subcategory and these were assigned values on a three-point scale: 1 incompetent, 2 partially competent, 3 competent.

The last section of the form addressed training needs; 28 potential areas for further training were listed and three answer options were available: (i) required, (ii) partly required, (iii) unnecessary. A further category ('other') was included for nurses to add their own opinion on further areas in which training might be required.

Tool completion

The tool was provided to the nurses two days after they first started employment in the hospital. The aim of the study and the tool were explained to the nurses by their supervisors and/or the senior ward nurse. The nurses required approximately 30–40 minutes to complete the tool. Following completion the responses were analyzed and discussed between the senior ward nurse/head nurse, the nurse's supervisor, and the new nurse. In-service training programs were organized according to perceived incompetent and the specific requirements of each new nurse and the priorities of the relevant hospital department by senior ward nurse/head nurse, the nurse's supervisor.

Statistical Analysis

Categories were analyzed by two researchers who coded the categories and read the statements independently. In cases where the responses were unclear the participating nurse was asked to clarify. Percentages and frequency distributions of each variable were determined. The Statistical Package for Social Sciences (SPSS) Version 12 was used for descriptive analysis of competence and demographics. Where appropriate, values are presented as means ± standard deviations.

Limitations of the study

Potential limitations of the present study are, first, that the areas of weakness were identified by self-assessment and, second, that the evaluation was performed only two days after first starting work. It is possible that a similar survey performed after a longer period of employment would provide the new nurse with a more accurate picture of his or her competences in the different areas. Studies with larger sample sizes will also be needed to confirm the specific areas of strength and weakness. Areas for future investigation include the reasons for lack of competence in specific areas and the extent to which these reflect weaknesses or omissions in the curricula of the nursing education.

Results

The characteristics of the study subjects are summarized in Table 1. The mean age of the new nurses was 24.3 ± 1.45 yr, and of these 109 (87.9%) were females and 15 (12.1%) males. The majority (57.3%) were allocated to surgical units. Overall, 81.5% of new nurses had no previous professional experience other than their training.

The self-assessed competence of new nurses in each field of practice was classified as 1 incompetent; 2 partially competent; 3 competent. As shown in Table 2, the categories of nursing practice where the nurses reported the highest levels of competence were hygiene (mean score 2.51 ± 0.51), fluid volume monitoring (2.42 ± 0.48), drug administration (2.39 ± 0.45) and patient admission/discharge. Areas with the lowest reported levels of competence were assisting biopsy/aspiration (1.38 ± 0.50), cardiovascular system (1.46 ± 0.34), and CPR (1.54 ± 0.50). The average level competence of over 205 practices was 1.97 ± 0.34 (Table 2).

The specific nursing practices where the nurses felt themselves to be most competent are given in Table 3. The nurses felt themselves most competent for the measurement of vital signs (92.7%), hand washing (83.1%), sterile hand washing (82.3%) and weight measurement (79.0%). The nurses assessed themselves as more competent in the application of intravenous (IV) solutions (69.4%) and oral drugs (68.6%) compared to hand/face cleaning (Table 3).

The nursing practices where the nurses felt themselves to be least competent are listed in Table 4. These included disconnection of patients from mechanical ventilation (92.7%), the use of electronic devices (87.1%), and in flap monitoring (83.9%).

Regarding training requirements, the most common areas in which nurses expressed a need for further training concerned the complications and follow-up of chemotherapeutic drug administration (51.7%) and the care of patients with neurological problems (48.4%) (Table 5). Areas in which the most nurses expressed a partial need for further training concerned care of respiratory diseases (54.1%) and wound care (53.2%) (Table 5).

Discussion

This study has evaluated the self-assessed competence of newly graduated nurses taking up employment at a university hospital. The study addressed 205 clinical practices in 14 categories. Based on their self-evaluation, the competence of new graduate nurses was generally rated as neither incompetent nor competent; most nurses perceived

Table 1. Demographic and Professional Characteristics of Nurses (n=124)

Characteristics	**Mean**	**SD**
Age	24.3	1.45
Gender	**n**	**%**
Female	109	87.9
Male	15	12.1
Wards	**n**	**%**
Surgery	71	57.3
Medical	34	27.4
Pediatric	17	13.7
Other	2	1.6

Table 2. Competency Level of Nursing Practices (n=124)

Practices	X±SD	Min-Max[a]	Number of Practices (n=205)
Hygiene practices	2.51±0.51	1-3	7
Fluid-volume monitorization	2.42 ±0.48	1.17-3	6
Medication practice	2.39 ±0.45	1-3	9
CPR	1.54 ±0.50	1-3	6
Respiratory system practices	1.71±0.40	1-3	23
Cardio vascular system practices	1.46 ±0.34	1-2.86	28
Other systems practices	1.87±0.37	1.23-2.90	31
Infection control	2.01±0.41	1.19-2.95	21
Devices/equipment/machine	1.78±0.30	1.17-2.83	35
Assisting biopsy/aspiration practices	1.38 ±0.50	1-3	6
Accepting and discharging practices	2.25±0.56	1-3	9
Patient transfer/ position	2.18±0.44	1.1-3	10
Perioperative care	2.16±0.43	1.13-3	8
Blood and blood products	1.95±0.72	1-3	6
Total Practices	1.97±0.34	1.2-2.91	205

[a] Incompetent=1, Partial competent=2, Competent=3

Table 3. Practices which Nurses Rated Themselves as Most Competent (n=124)

Nursing Practices	Incompetent n (%)	Partially n (%)	Competent n (%)
Measuring vital signs	1 (0.8)	8 (6.5)	115 (92.7)
Hand hygiene	2 (1.6)	19 (15.3)	103 (83.1)
Surgical hand washing	3 (2.4)	19 (15.3)	102 (82.3)
Measuring weight	1 (0.8)	25 (20.2)	98 (79.0)
Hypothermia management	1 (0.8)	30 (24.2)	93 (75.0)
Communication with patient	15 (12.1)	21 (16.9)	88 (71.0)
Preparing and administration IV solution	1 (0.8)	37 (29.8)	86 (69.4)
Administration medications orally	3 (2.4)	36 (29.0)	85 (68.6)
Calculating input-output	3 (2.4)	36 (29.0)	85 (68.6)
Assisting hand and face hygiene	5 (4.0)	35 (28.2)	84 (67.8)

themselves to be partially competent across the range of nursing practices.

A number of factors including new medical advances and the changing age-profile of the population have led to increases in the complexity of nursing practices and the demands made upon nursing staff. To fulfill their duties nurses require an increasingly

Table 4. Practices which Nurses Rated Themselves as Most Incompetent (n=124)

Nursing Practices	Incompetent n (%)	Partially n (%)	Competent n (%)
Deconnection from mechanical ventilation	115 (92.7)	6 (4.8)	3 (2.4)
Using electronical devices[a]	108 (87.1)	12 (9.7)	4 (3.2)
Monitorization of flap	104 (83.9)	18 (14.5)	2 (1.6)
Using mechanical devices[b]	97 (78.2)	18 (14.5)	9 (7.3)
Postmortem care – Preparation of exitus	90 (72.6)	25 (20.1)	9 (7.3)
Specimen collection[c]	90 (72.6)	14 (11.3)	20 (16.1)
Assisting diagnostic tests[d]	85 (68.6)	35 (28.2)	4 (3.2)
Monitorization globe in urinary bladder	84 (67.7)	28 (22.6)	12 (9.7)
Care of patient after LP procedure	79 (63.7)	36 (29.0)	9 (7.3)
Administering TPN	75 (60.5)	37 (29.8)	12 (9.7)
Ostomy (jejunostomy, colostomy) care	71 (57.2)	39 (31.5)	14 (11.3)

[a] Infusion pump, ventilator, monitors

[b] Connection blade and laryngoscope, hood, peep devices

[c] Deep tracheal aspiration, stool and distal line catheter specimen

[d] Bone marrow aspiration, renal and liver biopsy

Table 5. Some of the Training Subjects Which Nurses Required (n=124)

Subjects	Need n (%)	Partial n (%)	No Need n (%)
Chemotherapy medication	64 (51.7)	45 (36.2)	15 (12.1)
Nursing care of a patient with neurological disorders	60 (48.4)	52 (41.9)	12 (9.7)
Nursing care of a patient who takes steroid	59 (47.5)	53 (42.8)	12 (9.7)
Nursing care of a patient with renal disorders	50 (40.4)	58 (46.7)	16 (12.9)
Nursing care of a patient with orthopedics disorders	49 (39.5)	58 (46.7)	17 (13.8)
Surgical procedures in ward	49 (39.5)	60 (48.4)	15 (12.1)
Approach to dying person's family	32 (25.8)	61 (49.2)	31 (25.0)
Wound care	26 (21.0)	66 (53.2)	32 (25.8)
Nursing care of respiratory system diseases	25 (20.1)	67 (54.1)	32 (25.8)

wide education in background theory as well as in practical skills, and this has led to re-evaluation of the educational curriculum for training nurses in the light of changing conditions and requirements[23,24]. In addition, staffing and turnover problems have accentuated the need for nursing staff; newly recruited nurses are increasingly

given responsibility for patient care before they have been fully assimilated into, and habituated to, the clinical environment[18,24,25]. This can result in stress and fatigue, higher rates of patient care errors, reduced job satisfaction, and increased turnover of nursing staff[25].

In previous studies nurses emphasized that their education had not prepared them fully for working life[26-28]. Furthermore, experienced nurses have emphasized that it is becoming increasingly difficult to provide adequate support and supervision of new graduate nurses because of heavy work loads[24].

Although it has been suggested that high turnover of new nursing staff could potentially be addressed by designating an obligatory minimum residence time, the imposition of such restrictions is highly controversial. Instead, the preferred strategy is to put in place measures to facilitate the assimilation of new nurses into the clinical environment, thereby increasing both job satisfaction and the quality of patient care[4,25].

The present study addressed the perceived competence of new nurses in 14 subject categories and 205 specific nursing practices. Overall, nurses felt themselves to be most competent in areas such as hygiene, fluid volume monitoring, and medication administration (Tables 2, 3); this finding is not unexpected because these are basic nursing practices. However, the finding that some new graduate nurses felt themselves to be only partially competent or even incompetent in these specific skills is thought-provoking. Conversely, areas in which new nurses felt themselves to be least competent included more specific and complex nursing practices such as assisting biopsy/aspiration and postmortem care (Table 4); these are likely to represent areas in which the new nurses have had little prior experience. Although this finding is to be expected, it is of concern that the large majority of all nurses felt themselves to be incompetent in these specific areas. Possible reasons include failure of the bachelor education to attune the educational syllabus accurately to clinical needs, an absence of regular updating of the syllabus to reflect ongoing medical developments, and insufficient participation by student nurses in these areas of instruction[29-30].

Similarly, in the study of Berkow et al.[18] only 24% of nurse supervisors stated that they believed that new graduate nurses had adequate clinical skills. Only 27% asserted that new nurses were competent in the use of technological devices such as IV pumps. Hartigan et al.[28] found the technical/clinical procedures were commonly not performed to the standard expected of experienced nurses; there were deficiencies in several areas including pain relief, managing falls, calculating urinary output and titrating insulin. In a study conducted to determine the extent of satisfaction of clinical supervisors for the skills of new graduate nurses, the lowest levels of satisfaction were identified in the areas of implementation and problem-solving skills[31].

In the present study the new nurses generally expressed a need for further training in the specific areas related to their clinical placement. However, many felt that they required additional education in general subjects including the care of wounds and of the dying patient. Wound care is a difficult subject because it covers many subjects including patient comfort, selection of materials, wound evaluation, and infection control[32]. Similarly, dying patient care is a significant challenge for a new graduate nurse. This encompasses several difficult issues including pain management and communication with dying patient and his/her relatives[33]. The expressed need for further training in

such areas reflects the fact that new nurses have had little prior experience of wound management or dying patient care. In addition, some nursing interventions are particularly demanding in that they require a combination of techniques and the synthesis of different types of information; although further instruction in how to deal with complex demands would no doubt be beneficial, often such skills are best acquired by first-hand experience and it can therefore take time to achieve satisfactory levels of competence.

This study has identified strengths and weaknesses in the competence of new nurses across a range of nursing practices, and will therefore facilitate the implementation of continuing education programs to strengthen nurses' skills in areas requiring attention. The findings presented here will also be useful to providers of nursing education in revising their course programs.

A strength of the present study is that the completed tool was jointly discussed between the senior ward nurse, the supervisor, and the new nurse. In some cases the new nurse expressed competence in specific areas but the experienced nursing staff disagreed with his or her assessment. The tool therefore fulfilled a second objective of increasing self-awareness of competence and of accurately identifying areas for further in-service training according to the specific requirements of nurse.

Conclusion and Suggestion

Determining the areas where newly employed nurses feel themselves to be insufficiently skilled is important for patient safety, cost reduction, and improving the quality of care. The identification of areas of perceived weakness will help bachelor education to ensure that the education they provide meshes accurately with clinical needs. In addition, new nurses differ in the specific areas in which they feel themselves to be insufficiently prepared, and evaluation of specific competences allows the implementation of remedial training programs designed to meet the needs of individual.

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