THE DEVELOPMENT OF COMPETENCES OF NURSING STUDENTS DURING THEIR FIRST PRACTICAL CLASSES

Iwona Bodys-Cupak
Faculty of Health Sciences, Jagiellonian University Medical College, Krakow, Poland
i.bodys-cupak@uj.edu.pl

Alicja Kamińska
Faculty of Health Sciences, Jagiellonian University Medical College, Krakow, Poland
alicja.kaminska@uj.edu.pl

Anna Majda
Faculty of Health Sciences, Jagiellonian University Medical College, Krakow, Poland
anna.majda@uj.edu.pl

Joanna Zalewska-Puchała
Faculty of Health Sciences, Jagiellonian University Medical College, Krakow, Poland
j.zalewska-puchala@uj.edu.pl

ABSTRACT
Nursing education devotes a lot of attention to the development of competence. The character and quality of students' clinical experience, in addition to knowledge, play an important role in this process. Nursing students' first experiences during the development of competence during the practical classes on the ward after practicingprofessional skills in simulated conditions is of utmost importance. The aim of this study was to assess the development of competence of nursing students during the first practical classes.
The study utilised a diagnostic survey and rating scales. The research tools included: an original questionnaire and ACS - Ascent to Nursing Competence Scale. The subjects were 322 first year undergraduate nursing students from universities in southern Poland. The fieldwork was carried out in 2016, after the students had completed their first block of practical classes.
Students rated their competence in the area of Knowledge and Skills as the highest, and their competences in the area of Need to belong to a group as the lowest. Younger students achieved higher scores in all subscales of the competence scale.
Supportive learning environment facilitates the development of competence of nursing students. The sense of self-efficacy and the sense of belonging to an interdisciplinary team of learners play a crucial role in this process.
Keywords: Competence, Student, Nursing

INTRODUCTION

Developments in nursing create a need to test oneself in new environments and meet new requirements. Nursing competence is an important determinant in ensuring quality and safety of health care (White, 2003, Defloor et al. 2006, Sportsman, 2010, Ahmed, Adam & Al Moniem, 2011). Competence is a combination of technical knowledge, cognitive and social skills, motives, attitudes and needs. The most important competencies include critical thinking and problem-solving skills that allow the nurse to apply theoretical knowledge in practice in a diverse multi-disciplinary and multi-cultural environment. Great attention is paid in nursing education to the development of competencies (Hakimzadeh et al. 2012, Reid 2000, Kajander-Unkuri et al. 2013, Pijl-Zieber et al. 2014). The character and quality of the clinical experience of the student play an important role in the development of professional competencies. The experience gained during the practical training on the ward is of critical importance. Nurse education in Poland takes place in Bachelor's and Master's degree programs and is based on the standard of education of the Ministry of Science and Higher Education from 2012. In the first year of education, students take 175 hours of work in a skill lab, afterwards, they have 80 hours of practical training in a clinical ward under the supervision of an academic teacher. The main objective of clinical education is the students' acquiring nursing, professional and social skills (Levett-Jones & Lathlean, 2009, Benner et al., 2010, Chen et al., 2011). The learning environment, which should provide an opportunity to raise the level of competencies appropriate to the stage of education, plays a significant role in the development of competencies. Students' satisfaction with the clinical training increases their capabilities, desire to develop knowledge and to achieve competence (Hartigan-Rogers et al., 2007, Johansson et al,. 2010, Henderson et al., 2012). Clinical education give students the opportunity to combine theory with practice and are a source of experience that makes it easier to achieve competence.

In addition to the teacher, it is the nursing team that not only shapes the experience of students, but also is a major supporting force on a clinical ward (Henderson, Heel & Twentyman, 2007). For students it is extremely important to be accepted by the interdisciplinary team, which translates into a sense of belonging to a team. Levett-Jones and Lathlean (2009) confirmed that the sense of belonging is conducive to the development of students' self-confidence in professional activities. The sense of belonging, the support received from teachers and co-workers at the ward create good conditions for the development of knowledge and professional competence. It was determined that the attitudes and behavior of nurses working at the ward towards the students affected their learning and socialization (Benner et al., 2010, Chen et al., 2011, Aghamohammadi-Kalkhoran, Karimollahi & Abdi, 2011, Raines, 2012), achieved competencies and confidence (Bradbury-Jones, 2011). Knowing the factors that determine the process of developing nursing competencies will contribute to improving the education of nursing students and the professionalisation of nursing care.

Study objectives

The aim of this study was to assess the conditions of development nursing students competencies during their first practical classes.

METHOD

The study was carried out using a diagnostic survey questionnaire and rating scales. The research tools included: an original questionnaire, ACS - Ascent to Nursing Competence Scale.

The original questionnaire covered socio-demographic variables (age, gender, place of residence).

ACS - Ascent to Nursing Competence Scale, in addition to evaluating professional competence, also assessed the conditions and attributes of the development of professional competencies of nursing students. It consisted of closed questions with answers to choose from based on a 5-point Likert scale, thematically divided into three subscales. The first subscale - Support (ACS W, W1-W6) allowed to determine the relationship of the students with their tutor / teacher and learning support for students at the beginning of the practical training on the ward. The second subscale - Need to belong to a group (ACS B, B1-B17) assessed the students' need to be included in the work of a group. It showed the necessary role of tutors/teachers for students' gaining a sense of acceptance by the medical team. The third subscale - Knowledge and Skills (ACS LW, L1-L13) allowed for the assessment of the students' knowledge and professional skills. All subscales of the ACS are characterized by moderately high criterion validity and reliability. The original version of the scale (McCoy, Levett-Jones & Pitt, 2013) was subjected to a multi-stage process of adaptation to Polish conditions by Brodowicz and Zarzycka. Scale consisted of 36 statements that a respondent evaluated from 0 to 4 points. Score 0 - definitely I do not agree, 1 - I disagree, 2 - I have no option, 3 - I agree, 4 - definitely I agree. (Brodowicz & Zarzycka, 2015).

The study involved 322 subjects who were the first year undergraduate nursing students at universities in southern Poland. The fieldwork was carried out in 2016, after the students had completed the first block of practical training classes. The students were enrolled in the first year of studies and had completed the practical classes in the Fundamentals of Nursing. The students were informed about confidentiality and anonymity of the research, and that participation was voluntary and that they could refuse/withdraw from the study at any time during the study. The study was approved by the Bioethics Committee (approval no. 122.6120.193.2015). Everyone agreed to participate in the study. Questionnaires received from respondents were evaluated individually and checked for completeness, data was coded, entered into the database and processed using IBM SPSS Statistics 20 for Windows. The adopted level of significance was $\alpha = 0.05$.

FINDINGS

The great majority of the subjects were women (N = 300, i.e. 93.2% of the sample). Men formed 6.8% of the subjects (N = 22). The mean age of respondents was 20.89 years (SD = 2.47). Age of students ranged from 19 to 35 years old. Most often (N = 146, i.e. 45.3%), the subjects were 20 years old.

Analysis of the results of Ascent to Nursing Competence Scales demonstrated that most students assessed their competence in the field of Knowledge and Skills (M = 2.75, SD = 0.73) as the highest. Support was assessed at almost the same level (M = 2.74, SD = 0.82). Need to belong to a group was evaluated as slightly lower (M = 2.61, SD = 0.71).

Statistical analysis of the data contained in Table I allowed for a detailed examination of the results in the area of development of individual competencies. The average score on the Ascent to Nursing Competence Scale was 2.68 (ranging from 2.09 to 3.39). Higher average scores were obtained in the subscale of Knowledge and Skills - 2.75, then the Support subscale - 2.74, and the lowest in the subscale of Belonging to the group - 2.61. The standard deviations ranged from 0.71 to 0.82, which indicated a moderate diversity of results.

Analysis of the data allowed for a detailed examination of the data regarding received support and cooperation of the student with the teacher/nurse. Students most frequently pointed out that the teacher made them familiar with the operation of the ward at the beginning of practical classes (M=3.39), helped them to adjust to the environment (2.79) and made them feel welcome in the ward (M=2.75). In contrast, there were not introduced to all the ward staff (M=2.15) and did not feel welcome (by the staff) of the clinical ward (M=2.56). Moreover, the students stated that they had felt ignored by the medical staff when they started their practical training (M=2.82).

They agreed that the teacher was happy to devote their time to them (M=3.04), but also often feel like "odd ones" in the ward (M=2.97). They established a good relationship with the teacher (M=2.80), who showed their confidence in the students in relation to patient care duties (M=2.97). The subjects noted that were not supported in developing skills (M=2.77), but also frequently pointed out that the teacher encouraged them to do so (M=2.73). The staff did not support them enough in improving their skills (M=2.60) and during the practical training they did not feel like part of the team (M=2.54). They stated that the teacher didn't always thank them for their help at the end of the shift (M=2.47). Medical personnel were reluctant to devote time to them (M=2.34). They felt that they did not recognise the students' contribution to the work of the team (M=2.29). Moreover, they did not feel as important members of the team (M=2.25) and didn't experienced connection with the staff during the practical training (M=2.09). The results of this subscale indicate a weak sense of belonging to a group - the interdisciplinary team.

The respondents also recognized that during the practical training they were better able to combine theory with practice (M=2.91), and that duties were assigned to them in an appropriate manner, according to their knowledge and skills (M=2.84). They further stated that they felt they made an important contribution to patient care (M=2.82). They concluded that they were afforded an opportunity to gradually become independent at work (M=2.71), and encouraged to acquire new skills (M=2.80). They gained the conviction that thanks to completing their practical training they had the makings of a competent nurse (M=2.80). They felt more professionally talented after completing the classes (M=2.78). They harbored a slightly weaker belief that they had possessed time management skills (M=2.75) and felt confident enough to become gradually more independent (M=2.71). The respondents did not fully agree with the statement that they had achieved their practical training goals (M=2.62). They concluded that they had not had many opportunities to practice clinical skills (M=2.51).

It should be emphasized that the students highly appreciated the commitment and thoughtfulness of the teacher. They found their support to be extremely important for adapting to the new environment. The teacher created a sense of security and acceptance, and encouraged the development of skills. The students were convinced that thanks to the completion of the practical training and gradually becoming more independent they were better able to combine theory with practice. They further stated that they felt they made an important contribution to patient care. Table 1.

Table 1. Descriptive statistics for each item of the ACS (N=322)

subscales	Items	**M**	**Me**	**SD**
SUPPORT	W 6 / My tutor presented to me to the operation of the ward when I began the practical training	3.39	4	1.09
	In 5 / I was ignored by staff when I beginning my practical training	2.82	3	1.12
	W 3 / I was introduced to all the staff on the ward when I started the practical training	2.15	2	1.30
	W 4 / The staff made me feel welcome when I started the practical training	2.56	3	1.15
	W 2 / The teacher helped me to fit in the environment	2.79	3	1.03
	W 1 / The teacher made me feel welcome when I started the practical training	2.75	3	1.08
NEED TO BELONG	B 7 / The teacher thanked me for my help at the end of each shift	2.47	3	1.25
	B 2 / The staff were open to my questions	2.82	3	1.08
	B 17 / I felt like an odd-one out	2.97	3	1.12
	B 4 / I felt that the teacher trusted me in relation to patient care duties.	2.78	3	1.04
	B 5 / The staff supported me in improving my skills	2.60	3	1.00
	B 16 / I felt like an important member of the nursing team	2.25	2	1.07
	B 1 / The teacher was happy to devote their time to me	3.04	3	1.04
	B 8 / Medical staff were happy to devote their time to me	2.34	2	1.09
	B 9 / During the practical training I felt like part of the team	2.54	3	1.04
	B 15/ I felt that the medical staff recognised my contribution to the work of the team	2.29	2	1.04
	B 11 / I experienced a sense of connection with the staff during the course of the practical training	2.09	2	1.11
	B 12 / I was not been supported in developing my skills	2.77	3	1.04

	13 B / The teacher thought that I was competent	2.57	3	0.95
	B 14 / I felt included in the work of the ward	2.81	3	0.97
	B 10 / I felt that I fitted with the rest of the staff	2.54	3	0.98
	B 6 / The teacher encouraged me to develop my skills	2.73	3	1.01
	B 3 / I established a good working relationship with my teacher	2.80	3	0.96
KNOWLEDGE AND SKILLS	LC13 / The care duties were assigned to me according to my knowledge and skills	2.84	3	0.99
	LC5 / I had many opportunities to practice my clinical skills	2.51	3	1.07
	LC 3 / The practical training helped me in preparing for working as a nurse	2.67	3	0.96
	LC9 / I was encouraged to acquire new skills	2.80	3	0.89
	LC2 / During the practical training I was able to develop my time management skills	2.75	3	0.93
	LC 6 / The experience gained during the practical training allowed me to achieve professional competence	2.67	3	0.93
	LC 7 / I felt more professionally talented after completing the training	2.78	3	0.94
	LC11 / I made an important contribution to patient care	2.82	3	0.94
	LC4 / I believe that thanks to completing the training I have makings of a competent nurse	2.80	3	0.92
	LC 10 / During the practical training I felt confident enough to gradually become more independent	2.71	3	0.93
	LC 8 / I achieved my practical training goals	2.62	3	0.92
	LC12 / I had the opportunity to gradually become independent at work	2.82	3	0.88
	LC 1 / Thanks to the completion of the practical training I am able to better combine theory with practice	2.91	3	0.88

M- mean, Me - median, SD - standard deviation

Data analysis also demonstrated that the age of the respondents significantly differentiated the ACS scores. Older students obtained lower scores in the individual ACS subscales than younger people. They also felt less support from the teacher and the staff. Their need to belong was met to a significantly lower degree than in the case of the younger students. In terms of knowledge and skills, the older students demonstrated lower achievements than the younger ones - Table 2.

Table 2. ACS scores and age of the respondents (N = 322)

Age	**ACS W**	**ACS B**	**ACS LW**
Rho	-0.23	-0.28	-0.24
p	**<0.0001**	**<0.0001**	**<0.0001**
N	322	322	322

Spearman's rho correlation coefficient. p - level of statistical significance p = 0.05. N - number of subjects

No significant gender differences were observed on any of the ACS subscales (ACS W p = 0.95, Z = -0.64; p ACS B = 0.54, Z = -0.66; p ACS LW = 0.35; Z = -0.94).

CONCLUSIONS

The goal of nursing education is to develop the learners' ability to practice professional, holistic patient care. It is important that, in addition to theoretical knowledge, students obtain high levels of practical preparation and experience. Clinical experience gained through the application of theoretical knowledge in practice is the basis of nursing as a profession (Killam & Heerschap, 2013. The quality of clinical experience and knowledge affects the level of competence of future nurses (Mc Hugh & Lake, 2010).

The current study has demonstrated that nursing students rated their competence in the area of Knowledge and Skills as the highest, the results of the Support subscale were slightly lower and their competences in the area of Need to belong to a group as the lowest. The assessment of competence development carried out among nursing students demonstrated the need to strengthen competencies in the B subscale of the ACS (Belonging to the group - the interdisciplinary team). Results suggest providing individual interventions for those students, who need support in dealing with the challenges of the medical curriculum. It should be noted, however, that in assessing the need to belong to a group - the interdisciplinary team - there were several items that indicated a poor sense of belonging to that group among the subjects. Lack of positive relationship with the medical staff emerged as one

of the obstacles to effective learning mentioned by students in the research carried out by Levett-Jones and Lathean (2009), Kilam Heerschap (2013).

Brodowicz-Król et al. (2016) assessed holistic and professional competence of nursing students and noticed that there is a relationship between the competencies, especially in relation to the need to belong to a group. Borrot et. al (2016) clearly demonstrated that the experience gained during the course of clinical training significantly affected the formation of a sense of belonging to a group, and this, in turn, contributed to students' greater satisfaction with learning.

Development of professional competence is affected by many factors, internal and external. Our study revealed that the development of nursing competencies was determined by age. It was established that the level of competence in each of the studied areas decreased with age.

In the light of the current study it seems reasonable to say that attention to the sense of belonging to the interdisciplinary team play a key role in shaping the competence of nursing students. It should be remembered that support from the nursing staff on the ward can be a source of motivation for the students. Supporting, innovative, creative and highly personalized learning environment where students feel an integral part of the team is conducive to the process of socialization, reduces anxiety, creates self-confidence and enhances the willingness to learn, and thus the necessary professional competence.

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