

Original Article

The Development of Nursing Competencies in Student Nurses in Turkey

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Abstract

Background: Measurements of competence may be useful in evaluating learning outcomes in nursing education. This topic is important in the nursing field, and would add to professional education knowledge.

Aims: This study was to evaluate the education/learning outcomes of nursing students' competence using the nursing student competency instrument in a Turkish sample.

Methodology: A descriptive cross-sectional quantitative study was carried out among 390 conveniently sampled student nurses. Participants evaluated their perceived competencies on a validated instrument Nursing Students Competence Instrument (NSCI) under four domains, namely: integrating care abilities, leading humanity concerns, advancing career talents, and dealing with tension.

Results: The student nurses was 19.8 ±1.7 years (range: 18-24 years), 81.0 % (n=316) of the students were woman. The mean score of NSCI was 3.61 ±0.69; ranging from 2.89±0.93 to 4.24±0.69. As the students 'grades rise, their nursing competency also statistically rises to significant levels. Academic year was found to be related to nursing competence.

Conclusions: Nursing students had the highest levels of self-perceived competence in the areas of leading humanity concerns and advancing career talents. Moreover, in this study, low levels of perceived competence in nursing students had observed in dealing with tension.

Keywords: Nursing Students Competence Instrument (NSCI), student nurse, nursing

Introduction

The nursing competencies has been described as a state 'in which a nurse can improve their capacity and proficiency in the nursing profession'. Kuokkanen et al. (2016) states that nurse's competence is based on values, attitudes and skills into nursing care contexts. The competency of nurses has a considerable affect on safety of patient, as well as the effectiveness and quality of patient treatment (Lunden et al., 2017). Nursing

competencies are essential for nursing students' professional development, since they allow them to improve their quality of practice and broaden their knowledge. Nursing students and nurses need to develop high levels of competency in their efficiency and expertise in the nursing profession. Nursing education is under increasing pressure to more effectively prepare nurses to satisfy the requirements of patients and populations. High nursing competency of student nurses is crucial in order to offer efficient, safe, and high-quality

health services that meet the demands of the community. Having a good nursing competencies has always been desirable for student nurses however, few studies have examined the nursing competencies of student nurses (Lin et al., 2017).

Monitoring the value of training and instruction in higher education has become more important in recent years (Dennison & El-Masri, 2012; Cinar et al., 2011). All teams of nurse education are currently focusing on methods to develop their quality of educational offerings while increasing student satisfaction (Cinar et al., 2011). It was also noted that students' satisfaction ratings were low generally (Kantek & Kazanc, 2012; Altun et al., 2016). Edraki et al. (2011) states that there is a link between student academic achievement and their level of contentment with their topic of study.

Nursing is a very significant job that necessitates a high level of skill and expertise. Nurses are concerned with promoting the wellbeing and health of communities, families and, persons and improving professional practice (Currie & Carr-Hill, 2013). While their professional education prepares nurses to support the health of the patients and their families, they frequently fail to effectively care for themselves, resulting in poor health outcomes linked to stressful work settings (Melnik et al., 2013).

The nurses are prepared and allowed to perform nursing in its broadest sense which encompasses restoration of health, sickness prevention, and treatment of mentally and/or physically ill, and handicapped individuals of different ages in all health care and public framework; to teach medical management; to supervise and train nursing annexes; and to be a full a participant as a member of the health care team (ICN, 2015; Crosta, 2016).

Self-perceptions of competency tell the nurse about her level of competency in terms of attitude, skills, and, knowledge as well as if her performance corresponds to her self-report on the evaluation. Using self-perceptions of nurses in investigation allows researchers to have a better knowledge of nurses' needs and can help with professional development programs for nurses on the beginner to expert continuum (Marshburn, Engelke & Swanson, 2009).

The competency index demonstrate promise for measuring nursing students' learning outcomes in nursing school. Nevertheless, they encounter

statistically significant barriers in to develop in their capacity and proficiency. Both the capacity to offer personal motivation and nursing care and capability for professional nursing have commonly been defined as degree of nursing competency. Evaluation of these nursing abilities is difficult since it encompasses many complicated variables, including the learning process in both everyday activities and courses, as well as the inherent quality of each competency as a whole. Moreover, the whole nursing competency is linked with the learning process in both courses and regular movements, and it is critical to track how learning objectives are met. (Löfmark & Mårtensson G., 2017).

Student nurses are a particularly vulnerable group that require additional assistance in developing nursing competency. Their capacity to perform social self-care duties, , themselves, and the future were all negatively viewed by student nurses. Intra-organizational factors such as relationships between organizations, infrastructure support, access to resources, workplace and workload expectations, supervisory/management dynamics, decision-making processes, and relationships between persons at the workplace have practical application within organizations for both structured and unstructured policies and practices to improve student nurses 'nursing competency. High nursing competency of student nurses play a crucial role in an organization's success, so University organizations must be aware of the importance of student nurses' nursing competency. When major changes are realized in the higher education industry, assessing students' learning becomes a critical issue. It is recommended to monitor nurses' competency levels on an annual basis. Nurse educators should continue working to ensure that nursing students get the skills they need to work in a dynamic clinical context (Engström M, Löfmark A, & Vae KJ., 2017; Cascoe et al., 2017).

The aim of this research was to explain student nurse's perceptions and experiences in maintaining nursing competence. To our understanding, the current study looked the nursing competence among in Turkey student nurses firstly in order to supply scientific documentation for the training of the student nurses.

Methodology

Design and Setting: This cross-sectional and descriptive research was handled with student nurses who clinic-trained in different hospitals in İstanbul and were undertaking to assess the teaching results of competence of nursing students among first, second, third, and fourth year undergraduate nursing students, at a university, in İstanbul, Turkey, in April 2017.

Population and Sample: The sample of the study comprised of 390 student nurses (response rate 81%) who agreed to participate in the research. Informed permission was acquired throughout data collection. When collecting and processing data, informed consent is an ethical concept that demands researchers to seek people' voluntary involvement. It also involves secrecy, regard for informants, and anonymity (WMA., 2017). The co-researcher, who had no official association with the student nurses, explained the study, addressed any questions, and requested that if they decided to participate, the student nurses return the answered survey in the envelope. Consent was implied by the willingness to complete and return the survey.

Data Collection: A questionnaire was created to collect data on socio-demographic characteristics including the academic year, the NSCI and respondent's sex, and maturity. The NSCI is a newly developed questionnaire that measures student nurses' subjective experiences among a wide range of categories frequently included in nursing competency standards in a format that is brief enough to be utilized in a variety of clinical and research contexts. Lin et al. (2017) created the original NSCI in Taiwan, and Altun et al. (2017) validated it in a Turkish population for reliability and validity. NSCI comprised 4 sub-scales: dealing with tension, advancing career talents, leading humanity concern, and integrating care abilities. The NSCI scale includes 27 items (please see the Tables) that are scored on a 5-point Likert scale (1-5), with a possible range of 27 to 135, with higher scores reflecting greater perceived competence levels of student nurses. The coefficient alpha was 0.95 for the NSCI (Lin et al., 2017; Altun et al., 2017). In the Taiwan study, (Lin et al., 2017) the mean item score for the NSCI was ranged from 2.8 to 4.2. In the Turkish study, (Altun et al. 2017) the mean item score for the NSCI was ranged from 3.2 to 3.8. The results show that the NSCI is a reliable and valid tool for evaluating nursing students' nursing competencies

in both Turkish and Taiwan nursing students (Lin et al., 2017; Altun et al., 2017).

Ethical consideration and protection of human rights: The approval of the Institutional Review Board (IRB) of Medipol University of Faculty of Health Sciences (Permission number 44274237-44.99/01) was granted before the study commenced. Data were collected after the institutional review board approved the study protocol. This study was conducted in accordance with the Human Subject Research Ethics Committee guidelines (WMA, 2017).

Data Analysis: SPSS 17 was used for statistical analysis. The Cronbach alphas, frequency and percentage distribution, the median and the interquartile range, and one-way ANOVA were used to describe the sample.

Results

Average age of the 390 student nurses was 20.8 ± 1.7 years (range: 18-24 years), 81.0 % (n=316) of the students were woman, of whom 32.3% (n=126) were first-year nursing students and 25.6% (n=100) were fourth-year nursing students, respectively. The averages of students' experience with nursing competencies were as following: Integrating care abilities ($\bar{x}=34.93\pm6.29$), leading humanity concerns ($\bar{x}=22.62\pm4.16$), advancing career talents ($\bar{x}=26.32\pm4.60$), and dealing with tension ($\bar{x}=13.68\pm2.73$). The total mean of nursing competencies of nursing students, on 5-point Likert scale, was ($\bar{x}=97.56\pm15.61$) which indicates that the level of students nursing competencies with the nursing education program was impartial.

For each of the four NSCI sub-scales, responses were gathered and analyzed (Tables-1-4). Table 1-4 shows the means (SD) and frequency of each nursing competency subscale. There was significant relationship between students' nursing competencies with sample's academic year (First 32.51 ± 6.75 , Second 34.13 ± 6.38 , Third 35.87 ± 4.55 and Fourth 37.84 ± 5.55). Variables including along academic year lives were also associated with higher competence. Significant differences also were obtained for 4 subscales: Integrating Care Abilities [F= 15.99; p= .000], Leading Humanity Concerns [F= 17.02; p= .000] Advancing Career Talents [F=14.56; p= .000], and Dealing With Tension [F= 8.57; p = .000] (Table-5).

Table 1. The median score for the integrating care abilities

	Integrating care abilities	Score 'not at all' (1) N(%)	Score 'a little' (2) N(%)	Score 'moderately ' (3) N(%)	Score 'very much' (4) N(%)	Score 'extremely' (5) N(%)	Median	Range
V1	I can integrate the knowledge of basic biomedical science and general clinical skills to care for patients.	6(1.5)	46(11.8)	190(48.7)	121(31.0)	27(6.9)	3	4
V2	I can completely evaluate and analyze my client's health problems and its latent factors	7(1.8)	67(17.2)	168(43.1)	119(30.5)	29(7.4)	3	4
V3	I can utilize assessment skills in caring for a real-life patient	2(0,5)	36(9.2)	136(34.9)	176(45.1)	40(10.3)	4	4
V4	I can analyze a suspicious situation and consider all its possibilities	6(1.5)	56(14.4)	191(49.0)	115(29.5)	22(5.6)	3	4
V5	I can use holistic nursing care in caring for patients	4(1.0)	31(7.9)	146(37.4)	163(41.8)	46(11.8)	4	4
V6	I can apply concept mapping in investigating a clinical situation	12(3.1)	55(14.1)	156(40.0)	141(36.2)	26(6.7)	3	4
V7	I can recognize the role and function of nurses when caring for patients	3(0.8)	31(7.9)	107(27.4)	181(46.4)	68(17.4)	4	4
V8	I can have a discussion with others to analyze the patient's health situation	6(1.5)	32(8.2)	122(31.3)	169(43.3)	61(15.6)	4	4
V9	I can reflect on clinical situations and provide individual care for improving a patient's health status	5(1.3)	26(6.7)	132(33.8)	189(48.5)	38(9.7)	4	4
V10	I can distinguish and endorse the role of nursing and non-nursing professionals	3(0.8)	19(4.9)	95(24.4)	203(52.1)	70(17.9)	4	4

Table 2. The median score for the leading humanity concerns.

	Leading Humanity Concerns	Score 'not at all' (1) N(%)	Score 'a little' (2) N(%)	Score 'moderately' (3) N(%)	Score 'very much' (4) N(%)	Score 'extremely' (5) N(%)	Media n	Range
V11	I can display a general caring behaviors to peers	4(1.0)	28(7.2)	86(22.1)	211(54.1)	61(15.6)	4	4
V12	I can present my professional caring behaviors to patients	2(0.5)	26(6.7)	102(26.2)	196(50.3)	64(16.4)	4	4
V13	I can reflect my general caring behaviors toward peers	2(0.5)	25(6.4)	95(24.4)	199(51.0)	69(17.7)	4	4
V14	I can consider my professional caring behaviors toward patients	4(1.0)	30(7.7)	96(24.6)	191(49.0)	69(17.7)	4	4
V15	I can value professional caring behaviors	3(0.8)	21(5.4)	100(25.6)	214(54.9)	52(13.3)	4	4
V16	I can demonstrate responsibility toward a professional role and ensure nursing ethics	3(0.8)	23(5.9)	90(23.1)	197(50.5)	77(19.7)	4	4

Table 3. The median score for the advancing career talents.

	Advancing Career Talents	Score 'not at all' (1) N(%)	Score 'a little' (2) N(%)	Score 'moderately' (3) N(%)	Score 'very much' (4) N(%)	Score 'extremely' (5) N(%)	Median	Range
V17	I can search and use information independently	4(1.0)	24(6.2)	91(23.3)	182(46.7)	89(22.8)	4	4
V18	I treasure any learning activities	2(0.5)	28(7.2)	71(18.2)	186(47.7)	103(26.4)	4	4
V19	I have confidence in advancing a new idea to another's hypothesis	4(1.0)	35(9.0)	148(37.9)	158(40.5)	45(11.5)	4	4
V20	I can develop effective ways of communication within group interaction	1(0.3)	20(5.1)	113(29.0)	180(46.2)	76(19.5)	4	4
V21	I can utilize communication skills in a relationship of collaboration and complete care mission	4(1.0)	28(7.2)	108(27.7)	188(48.2)	62(15.9)	4	4
V22	I can apply group dynamics to solve learning problems	4(1.0)	28(7.2)	114(29.2)	185(47.4)	59(15.1)	4	4
V23	I can do my job professionally and efficiently	1(0.3)	20(5.1)	98(25.1)	190(48.7)	81(20.8)	4	4

Table 4. The median score for the dealing with tension.

	Dealing with tension	Score 'not at all' (1) N(%)	Score 'a little' (2) N(%)	Score 'moderately ' (3) N(%)	Score 'very much' (4) N(%)	Score 'extremely ' (5) N(%)	Medi an	Rang e
V24	I have satisfactory ways of dealing with pressure	8(2.1)	46(11.8)	167(42.8)	138(35.4)	31(7.9)	3	4
V25	I can manage my emotions when I am under stress	10(2.6)	65(16.7)	157(40.3)	133(34.1)	25(6.4)	3	4
V26	I can analyze stressors and look for solutions	3(0.8)	37(9.5)	148(37.9)	166(42.6)	36(9.2)	4	4
V27	I can differentiate any stressors within the learning process	1(0.3)	35(9.0)	133(34.1)	178(45.6)	43(11.0)	4	4

All the responses were compared along academic year lives.

Table 5. Academic year differences

	Academic year	N	Mean±SD	F	P
Integrating care abilities	1	126	32.51±6.75	15.99	.000
	2	81	43.13±6.38		
	3	83	35.87±4.55		
	4	100	37.84±5.55		
	Total	390	34.93± 6.29		
Leading humanity concerns	1	126	20.93±4.79	17.02	.000
	2	81	22.22±4.25		
	3	83	23.19±2.38		
	4	100	24.60±3.42		
	Total	390	22.62±4.16		
Advancing career talents	1	126	24.79±4.98	14.56	.000
	2	81	25.55±4.90		
	3	83	26.74±3.47		
	4	100	28.52±3.76		
	Total	390	26.32±4.60		
Dealing with tension	1	126	12.97±2.83	8.57	.000
	2	81	13.49±2.74		
	3	83	13.66±2.44		
	4	100	14.76±2.52		
	Total	390	13.68±2.73		
Total	1	126	9.12±17.16	19.36	.000
	2	81	9.54±16.02		
	3	83	9.94±10.44		
	4	100	1.05±12.74		
	Total	390	9.75±15.61		

Discussion

This investigation aimed to examine the student nurses' experiences and perceptions regarding the nursing competency. Evaluating nursing students' nursing skills offers data about their learning results, which may be used to enhance educational outcomes. For nursing students, the NSCI evaluates four dimensions linked to the four nursing competencies. Competencies of nursing include evaluating self-care capacity as integrating care capabilities, with preeminent humanity concerns that make nursing care meaningful, which will inspire nurses in the future to realize that nursing is an arduous profession via advancing-career abilities, and dealing with tension (Lin et al., 2017).

The NSCI mean score for the sample was 3.61 ± 0.69 (mean \pm SD); ranging from 2.89 ± 0.93 to 4.24 ± 0.69 . The average item score for the NSCI was 3.61 ± 0.69 , that was similar to those of reported by Leen et al., 2017. Mean scores were integrating care abilities domain 3.49 (SD=0.58), leading humanity concerns domain 3.77 (SD=0.07), advancing career talents domain 3.76 (SD=0.39), and dealing with tension domain (3.42 SD=0.33). Overall, student nurses rated their self-perceived competency as good, with the domains of guiding humanity issues and advancing career talents domain having the greatest self-perceived competency.

In this research, low evaluations came against items regarding to dealing with tension concerns dealing with pressure and manage our emotions when under stress. The quality of interpersonal relationships was a significant moderator of negative stressful events and individual wellbeing (Burns & Machin, 2013). In studies conducted by Burns and Machin (2013), show that optimum subjective wellbeing outcomes, as well as decreased negative and enhanced positive affective wellbeing, are linked to interpersonal relationship quality and psychological functioning. As a result, nurse teachers must incorporate strategies to reduce occupational stress, as well as identify and assist student nurses who are experiencing high levels of depression, anxiety, or stress (Melnyk et al., 2013).

The NSCI items' median scores and range were less than optimal in this investigation. This finding is consistent with the findings of another research. According to a cross-sectional research performed among newly graduating nurses using the Nurse

Competence Scale instrument, 83 percent of newly graduated nurses rated their competence as good, and 16 percent as very good (Wangensteen, 2012). According to a newly published research, the total mean was 66.7 ± 15.7 (mean \pm SD). Approximately 63 percent of participants rated their nursing competence as good, with 25.8% rating it as excellent (Kajander-Unkuri, 2015). More than half of the research participants believed they were inept, according to another newly released study. Clinical setting, theoretical class attendance, year of study, kind of institution, and, social support were all linked to clinical competence (Bifttu et al., 2016)

Higher levels of NSCI reflect optimal nursing competency. Furthermore, increasing number of research suggests that NSCI has a number of favorable effects for individuals. For instance, higher levels can lead to the resolution of conflict, the advancement of job skills, the leadership of humanitarian issues, and, the integration of care skills (Lin et al. 2017). It is notable that the range were, in each case, extremely similar. In terms of nursing competencies perception profiles of student nurses, the median of items 3, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 26, 27 resulted as 4 (range ≤ 4), which was undoubtedly better than items 1, 2, 4, 6, 24, 25 which recorded a median of 3 (range ≤ 4).

In our study, the median of 6 items were measured as 3 (range ≤ 4). An crucial result was that Student nurses were more inclined to concentrate on specific items 1, 2, 4, 6, 24, 25. Due to the findings of study, nursing competencies is observed at the highest level in fourth grades, the lowest in the first grade students. The nursing competencies of the students that attend to study increase as the levels of grade increase. Nursing competences exhibit statistical disparities in 4-year nursing education, according to the findings. Second-graders in nursing had a higher score than first-graders with regard to integrating care capabilities. Nursing students in the fourth grade scored higher than those in the first grade with regard to leading humanity issues. In terms of increasing professional abilities, nursing students in the fourth grade outperform those in the first. In terms of dealing with stress, nursing students in the fourth grade outperform those in the first. As a conclusion, nursing training plays a critical role in developing and sustaining nursing competencies.

Implications for nursing education: The quality of nursing education and practice externalize the competency level of the professionals involved.

Limitations of the study: This study has made contributions to data regarding the competencies of Turkish student nurses. Despite the fact that the sample size was relatively small, the findings demonstrate that further research is called for regarding nursing students in Turkey. Thus, extensive research should be carried out on this topic. This study include that only assessed self-perceptions of competency and not any other objective measures of competencies by others.

Conclusions : Self-evaluated nursing student competency instrument could be employed to assess the education outcomes of nursing students' competence using the nursing student competency instrument in a Turkish sample. Furthermore, it should also be employed as a teaching tool to improve competencies of nursing students in order to provide high-quality patient care in hospitals.

In the research population, nursing competencies of nursing students were lower than optimal, pointing the necessity for more education. An educational objective may be to move from the "good" to the "excellent" range on the study scale.

To improve nursing competency of student nurses, attention should be focused on those with low nursing competency. By acquiring nursing abilities that effectively resolve conflicts, help coping with the stress domain, expanding professional talents, leading humanity issues, and integrating care capabilities; student nurses can have an impact on their clinical practice.

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