

Self Assessed Professional Competence of Registered Jordanian Nurses

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ABSTRACT: *This study examined the self-assessed competence of registered Jordanian nurses working in private hospitals, and identified background factors associated with their self-assessed professional competence. We collected competence data from 269 nurses, using the Nurse Professional Competence scale. Jordanian nurses perceived their level of professional competence to be high; they reported the highest self-assessed competence in the area of nursing care, and the lowest self-assessed competence in the area of education and supervision of staff/students. Age, gender, years of professional experience as a registered nurse, and years working in the current institution as a registered nurse were positively associated with nurses' self-assessed levels of professional competence. Our results suggest that advanced nursing skills for education/supervision of others and leadership and safety planning need to be developed over time, beyond the bounds of undergraduate nursing programs. This warrants further development of these skills in health care organizations.*

Keywords: *Self Assessed Professional Competence of Registered Jordanian Nurses*

I. INTRODUCTION

As current healthcare systems become increasingly complex, owing to changes such as technological advances, and the growth of complex and diverse patient populations, healthcare providers are required to demonstrate a high level of professional competence to ensure high quality and safe care. Nurses are an integral part of healthcare teams. Thus, nurses too are required to demonstrate a satisfactory level of professional nursing competence to meet the demands of the current health care system and to provide safe, high quality care. Evidence has shown that maintaining professional nursing competence can significantly influence patient care outcomes, avoiding such problems as medication errors and nosocomial infections, and contributing to patient satisfaction (1-4). It also significantly influences nurses' outcomes such as job satisfaction, professional commitment, and intent to leave the organization and the nursing profession as well (5,6).

A consistent definition of professional nursing competence is lacking. However, the most established definition of professional nursing competence in the current literature includes the ability to demonstrate and integrate disciplinary knowledge; mastery and appropriate application of discipline-specific clinical skills, critical thinking, and sound judgment; interprofessional collaboration; and adherence to professional standards

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and ethics (7,8). A recent review of the literature on professional competence among registered nurses in countries around the globe has identified eleven common components of competence including: personal traits, professional clinical practice, legal and ethical practice, ensuring safety and quality, communication, management of nursing care, leadership, teaching-coaching, cooperation and therapeutics practice, critical thinking and innovation, and professional development (9).

Studies reporting on professional nursing competence have most consistently measured nurses' competence utilizing self-report approaches/scales (8, 10). The Perceived Competence Scale, European Questionnaire Tool, Competence Inventory for Registered Nurses, Australian National Competence Standards for Registered Nurses, Holistic Nursing Competence Scale, and Competence Scale for Senior Clinical Nurses are the most frequently tested and used scales for self-assessment of nursing professional competence (10).

In 2009, the Jordanian Nursing Council (JNC), which is the official body regulating the nursing and midwifery profession in the country, identified nine components of standards for registered nurses' professional practice that are largely similar to the competence components identified in the international literature. In 2016, the JNC further revised the standards of registered nurse practice and issued an updated document incorporating seven components as follows: 1) performance (ethics, accountability, safety, and advocacy), 2) knowledge (evidence-based knowledge and critical thinking), 3) relationship (communication, collaboration, collegiality, and cooperation), 4) professional development, 5) leadership and management, 6) resource utilization, and 7) provision of client-centered care. However, thus far, these standards have never been formally evaluated. The only study that has evaluated perceived competence among registered nurses in Jordan was published almost a decade ago (11). Moreover, the study examined self-reported competence of a cohort of registered nurses who graduated between 2001-2005, that is, before the release of the standards of registered nurse practice by the Jordanian Nursing Council. Further, the measure used for data collection in the Safadi et al. study (11) was developed by the investigators of the study and used for the first time; it has never been validated before. Thus, the primary purpose of this study was to examine perceived professional competence among Jordanian registered nurses working in private hospitals. A secondary aim of the study was to identify background factors associated with self-assessed levels of professional competence.

II. Methods

1.1. Design and Setting

A descriptive, correlational research design was applied to meet the aims of the study.

1.2. Sample and Setting

A total of 340 Jordanian registered nurses working in seven private hospitals in the Capital of Amman were invited to participate in the study. The city of Amman was chosen for recruiting study participants because it hosts the largest private hospitals and the overwhelming majority of all private hospitals in the country. Only nurses who had a Jordanian national number, held a baccalaureate degree in nursing or higher at the time of data collection, had passed the hospital's entrance examinations for registered nurses, had completed the induction and orientation periods in the current institution, and were able to read and understand English were eligible for

participation. Emergency, intensive care, pediatric, and medical surgical wards were selected for data collection as they employ the major proportion of registered nurses working in any hospital. A total of 274 questionnaires were returned, with a response rate of 81%. Five questionnaires were excluded from the analysis as they had a majority of missing data (i.e., >60% of items not answered), resulting in a total 269 analyzed questionnaires.

1.3. Ethics

Ethical approval for the study was obtained from the ethics committee at the researchers' university. Further, permission for data collection from eligible nurses was granted from the Chief Director of each of the participating hospitals. Eligible nurses who gave permission to be contacted by the study investigators were given the study package that consisted of 1) a cover letter explaining the nature of the study (purpose of the study, risks and benefits, confidentiality, anonymity, nature of voluntary participation, etc.), 2) the study questionnaire, and 3) a coded envelope. Return of completed questionnaires was considered to imply consent to participate in the study.

1.4. Measures

A structured questionnaire consisting of two parts was handed out to participating nurses. The first part consisted of a researcher-developed demographic data sheet, which collected data related to nurses' demographic and work-related characteristics. The second part of the questionnaire consisted of the Nurse Professional Competence (NPC) scale. Permission from the original author/copyright holder of the NPC scale was obtained prior to data collection.

The Nurse Professional Competence (NPC) scale has been extensively tested and used in studies measuring self-assessed professional competence among registered nurses in countries across the globe. The scale has been found to have satisfactory psychometric properties including reliability and validity (12, 13, 4, 14-16). In the current study, the NPC had a Cronbach's alpha of 0.98 for the entire scale, with values varying between .88 and .98 for the eight individual competence areas. The NPC consists of 88 items across eight competence areas, which are centered on two overarching themes (Table 1). Participating nurses were asked to indicate their self-assessed competence on each of the eight competence areas using a four-point scale, ranging from 1 (*very low degree*) to 4 (*very high degree*). Participating nurses completed the NPC in its original form in English, because English is the primary language of instruction in all colleges of nursing in Jordan and is also the primary language of professional documentation in the Jordanian healthcare system.

1.5. Data Collection and Analysis

With the help of the head of the continuous education unit at each of the participating hospitals, the primary investigator met with the registered nurses who were eligible to participate in the study to explain the study's rationale and significance, invite them to participate, and answer any related questions. Nurses who agreed to participate were met by the primary investigator and handed the study questionnaire and a coded envelope, with instructions to complete the questionnaire anonymously at the meeting and return it. The primary investigator remained available to answer any questions from participating nurses while completing the study questionnaire.

Data were entered and analyzed in SPSS 21.0 (SPSS, Inc., Chicago, IL, USA). Descriptive statistics, including means and percentages of nurses' demographics and work characteristics were calculated. Self-assessed competence scores on each of the eight competence areas and the two overarching themes were calculated and transformed into a scale of 1-100, according to formulas provided by the scale developer. The higher the calculated score, the higher the self-assessed professional nursing competence. Means and standard deviations were also calculated for each competence area and theme. The total NPC score was calculated by summing up the scores on the 88 individual items. Univariate statistical analyses, an independent samples t-test and a one-way analysis of variance (ANOVA), were performed to examine differences in nurses' self-assessed competence scores in relation to their demographic and work-related characteristics, including age, gender, marital status, years of professional experience, years working in the current institution, type of clinical unit, and type of training university. Observed alpha values $< .05$ were considered significant.

III. Results and Discussion

1.6. Sample Characteristics

Participating nurses had a mean age of 30 years (ranging between 22-58 years), a mean of seven years of professional nursing experience (ranging between 1-35 years), and a mean of four years of working as a registered nurse in the current institution (ranging between 1-23 years). Males and females had almost equal representation in the sample (i.e., 50.6% and 49.4% respectively). Most of the participating nurses (62%) had a baccalaureate degree in nursing from a public university and almost half of them (46.2%) were assigned to the medical surgical wards.

1.7. Self-Assessed Professional Competence

As shown in Table 1, the results demonstrated that the mean total score of self-assessed competence among involved nurses was 279.69 (± 49.03). Jordanian nurses perceived their highest competence to be in the competence area of nursing care (83.61 ± 17.05), followed by value-based nursing care (81.61 ± 16.68). They perceived their lowest competence to be in the competence area of education and supervision of staff/students (76.11 ± 21.09), followed by legislation in nursing and safety planning (76.97 ± 16.88).

The self-assessed level of professional competence among Jordanian nurses involved in the current study is comparable to that reported among Swedish registered nurses (13) and much higher than that reported among Greek nurses (16). For instance, similar to results among Swedish nurses (13), Jordanian nurses' reported NPC scores that ranged between 76 and 83, which indicates a high level of competence. Further, in agreement with studies among Swedish (13) and Greek nurses (16), Jordanian nurses scored significantly higher on theme I, "Patient-Related Nursing," than on Theme II, "Organization and Development of Nursing Care." These results are also concordant to those reported in other studies using the Nurse Competence Scale (NCS) in which nurses perceived themselves to have a higher level of professional competence in patient-related care activities (e.g., providing nursing care, utilizing nursing process, respecting patient autonomy and privacy, medication administration, etc.) (15-18). The current finding of a high level of competence in Theme I is expected, as Theme II consists of more complex and advanced competence skills (i.e. leadership and development in nursing, and

education and supervision of staff/students), than the basic and fundamental competences included in Theme I. These latter competences are emphasized upon more frequently in undergraduate nursing programs globally, as they are more critical for providing safe patient care than those in theme II. Another possible explanation for this finding could be that, while the advanced nursing competences of leadership and development in nursing, and education and supervision of staff/students are included in undergraduate nursing curricula, these competences are not given much importance in the clinical practice of registered nurses. In other words, these competences are not taken into consideration when recruiting/hiring new registered nurses or when evaluating the performance of registered nurses already employed. This finding has several implications for nursing practice internationally. Academic institutions worldwide should design their curricula based on standardized competence requirements of registered nurses, such as those included in the Nurse Professional Competence Scale, The Quality and Safety Education for Nurses (QSEN), or the Magnet standards, and should ensure that their students meet these competences throughout the program and at the point of graduation. Health care institutions and nurse leaders in managerial positions should also utilize similar standardized competence requirements for registered nurses, both when hiring new nurses (in entrance examinations and/or interviews) and when evaluating the performance of registered nurses already under employment. The evaluation of registered nurses' performance based on competence standards, categorizing nurses into different levels based on this evaluation, and the design of continuing education and training programs targeted at improving nurses competence have been found to be an effective strategy to not only improve nurses' competence but to also improve nurses' job satisfaction and patient satisfaction (5). Further, advanced nursing competences should be targeted in continuing education programs of registered nurses; health care organizations must take responsibility for improving nurses' professional competence in supervision and education of others and in leadership and development in nursing

Table 1. Summary of NPC scores (transformed into a scale of 1-100) on each competence area and the two themes

Competence area/theme	Self-Assessed Competence	
	Mean	(SD)
1. Nursing care		17.05
2. Value-based nursing care	81.61	16.68
3. Medical technical care	80.38	16.05
4. Teaching/learning support	80.92	16.96
5. Documentation and information technology	78.62	19.34
6. Legislation in nursing and safety planning	76.97	16.88
7. Leadership and development	77.05	18.23
8. Education and supervision of staff/students	76.11	21.09
Theme 1: Patient related nursing (competence areas 1-6)	80.35	13.22
Theme 2: Nursing care organization and development (competence areas 7-8)	76.71	16.26

1.8. Self-assessed Competence and Background Factors

The one-way analysis of variance (ANOVA) revealed statistically significant differences among nurses' mean self-assessed competence scores in most of the eight competence areas and the two overarching themes in relation to their background characteristics (Table 2). Older nurses and those with more years of professional nursing experience had significantly higher competence scores in most of the competence areas (except for legislation in nursing and safety planning) and the two overarching themes. Nurses with more years working in the current institution as a registered nurse had significantly higher scores in the competence areas of nursing care, value-based nursing care, medical technical care, and teaching/learning support, and the two overarching themes. Further, female nurses had significantly higher scores in most of the eight competence areas (except for education and supervision of staff/students and medical/technical care) and the two overarching themes, as compared to male nurses. Marital status, type of training university, and type of clinical unit had no significant relationship with nurses' self-assessed competence scores on any of eight competence areas and the two themes.

Among the demographic and work-related variables, age, gender, years of professional experience, and years working in the current institution as a registered nurse were positively associated with nurses' self-assessed professional competence. In most of the eight competence areas, including those in Theme II, older nurses, those with more years of professional experience, and those with more years working in the current institution as a registered nurse scored significantly higher than their counterparts who were younger, had fewer years of professional experience, and had worked for fewer years in the current institution as a registered nurse. This finding is also consistent with results among other groups of nurses (13, 15, 19, 20). While this finding implies that complex, advanced nursing competences need more time, exposure, and clinical training to develop beyond the level provided during undergraduate nursing programs, it is difficult to conclude any cause and effect relationship between years of professional experience as a registered nurse and years in the current institution and self-assessed professional competence. This is because the current study was cross-sectional and descriptive-correlational in nature. Thus, future research should examine the effects of interventions targeted at improving professional competence of registered nurses on their organizational commitment, intent to leave, and their actual turnover rates using randomized controlled trial research designs.

In contrast to other studies (13, 17, 21), female Jordanian nurses involved in this study reported significantly higher scores in most of the eight competence areas and the two overarching themes compared to male nurses. One of the most important reasons for emigration among Jordanian nurses emigration is the availability of nursing jobs in neighboring countries, especially in the Gulf region, where nurses can earn higher salaries and experience better work conditions, including better continuing education opportunities (22). Certainly, recruiting countries will select the most qualified nurses who should pass the competence exam for licensure agencies in these countries. However, because of the cultural and religious values/norms of the Jordanian society—which generally prohibit females from leaving their home country, especially if they have no male guardian to accompany them—the majority of emigrant nurses from Jordan are males. Thus, because of the emigration of highly qualified male nurses from Jordan, it is rational to find that female nurses have significantly higher perceived competence scores than male nurses. Relevant professional entities, such as the Jordanian Nursing

Council and Jordan Nurses and Midwives Council, and health care institutions have to implement strategies to improve the retention of qualified nurses in the Jordanian health care system. These could include a reconsideration of the current salary and incentives system, providing opportunities for professional development, improving work environments, implementing mentorship programs, and offering rewards to nurses who demonstrate excellence and/or stay in the health care organization for a specified period of time.

Finally, there are several potential limitations to this study that should be addressed in future studies. The cross-sectional nature of the study, the convenience sampling used for recruiting the participants, as well as recruiting the participants from selected private hospitals in the Capital of Amman, all limit the representativeness of the study sample and the generalizability of its results. Further, nurses' competence was evaluated using a self-report approach, and thus it is subject to response set bias and may not reflect actual competence and performance.

Table 2. Differences in nurses' perceived professional competence by their demographics and work-related variables

Variable	CA1	CA2	CA3	CA4	CA5	CA6	CA7	CA8	Theme 1	Theme 2
Age										
20-39 year olds (n = 241)	82.5±1 7.3	80.9±1 6.9	79.4±1 6.4	79.7±1 7.2	77.6±1 9.3	76.5±1 6.9	75.9±1 8.2	74.7±2 1.0	79.4±1 3.5	75.7±1 6.2
40-59 (n = 28)	92.6±1 0.8**	87.7±1 3.2*	88.3±9 .3**	90.6±1 0.6**	86.8±1 7.4*	80.9±1 5.6	86.3±1 5.2**	87.5±1 7.5**	87.8±6. 8**	84.9±1 4.2**
Gender										
Male (n = 136)	80.9±1 8.8	78.8±1 8.6	78.8±1 6.9	78.3±1 8.7	76.0±2 1.4	64.1±1 7.9	74.8±1 9.6	75.1±2 1.6	77.8±1 4.9	74.7±1 7.6

Fem ale (n = 133)	86.3±1 4.6**	84.4±1 3.9**	81.9±1 5.0	83.5±1 4.4*	81.2±1 6.6*	79.8±1 5.2**	79.3±1 6.3*	77.0±2 0.5	82.8±1 0.6**	78.7±1 4.5*
Professional experience as a registered nurse										
1- 19 year s (n = 239)	82.5±1 7.7	81.1±1 6.8	79.6±1 6.3	80.0±1 7.2	77.9±1 9.3	76.7±1 6.9	76.3±1 8.2	75.0±2 1.1	79.2±1 3.4	76.0±1 6.2
20- 39 year s (n = 25)	92.7±1 1.3**	89.2±1 3.1*	89.7±9 .3**	91.7±1 0.5**	88.5±1 7.1**	81.1±1 6.8	87.2±1 5.4**	89.0±1 7.0**	88.7±7. 3**	85.7±1 4.7**
Years working in the current institution as a registered nurse										
1- 14 year s (n = 256)	83.3±1 7.0	81.1±1 6.6	79.8±1 6.1	80.7±1 6.9	78.3±1 9.4	76.6±1 7.0	76.6±1 8.4	75.6±2 1.2	79.9±1 3.2	76.3±1 6.4
15- 30 year s (n = 11)	93.7±9. 9*	94.0±9. 4*	93.4±8 .3**	90.9±1 0.4*	88.6±1 2.1	85.3±1 0.3	87.0±9. 9	87.2±1 4.2	91.0±5. 1**	86.5±8. 8*

Note: CA: Competency Area , * $p < .05$., ** $p < .01$.

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