Performance Evaluation of In-service and Permanent Nurses in Hospitals Affiliated to Iran University of Medical Sciences:

A Comparative Study

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Abstract

Background and Objective: It is widely accepted that nurse performance is vital to quality patient care outcomes. Various factors such as work experience and job satisfaction can affect the performance of nurses working in hospitals. This study aimed to compare the perceptions of two groups of nurses, newly-qualified nurses performing their compulsory community service (CCS) and enrolled experienced, regarding factors influencing their performance in hospitals affiliated to Iran University of Medical Sciences.

Materials and Methods: The present descriptive study was carried out among newly-qualified nurses performing their CCS (n=225) and experienced registered nurses (n=290). The participants were randomly selected using the Cochran formula. Data were collected applying the Hersey and Goldsmith (1980) employee performance questionnaire (ACHIEVE model with seven dimensions including Ability, Clarity, Help, Incentive, Evaluation, Validity, and Environment). Data analysis was performed in SPSS (version 23) using descriptive statistics and t-test.

Results: the mean scores of Ability, Clarity, Help, and Incentive, Evaluation, Validity, and Environment factors influencing the performance were lower among permanent nurses compared to those of newly-qualified nurses (P-value=0.001). In addition, the mean of validity domain was lower among newly-qualified nurses compared to that of registered senior nurses (P-value=0.001).

Conclusion: In this study, we evaluated performance of two groups of nurses in seven dimensions. There was a significant difference between two participant groups in terms of all dimensions, meaning that all variables of Ability, Clarity, Help, Incentive, Evaluation, Validity, and Environment scored higher by newly-qualified nurses. Nevertheless, the dimension of validity scored higher by the experienced nurses. It is recommended that managers pay attention to factors influencing performance of newly-qualified and senior nurses and consider them in designing appropriate strategies to improve their performance.
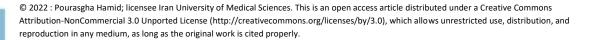
Keywords: Performance, Achieve model, Nurses, Hospitals

Background and Objective

Human resource is considered as a strategic asset at any organization as the achievement of an organization's objectives mostly depends on the employees' performance[1].As the largest source of human resources, nurses play a vital role in provision of hospital care. Quality of services provided to patients within hospitals is directly related to the performance of nurses[2]. Various factors can affect the performance of nurses, some of the most important of which are high workload and dissatisfaction with job. Heavy workload as well as non-supportive and stressful work environment are among the main reasons for job dissatisfaction among nurses[3].

Other individual and organizational factors identified as influencing factors are organizational structure, supervision and control, salary and payments, job design, length of work, work experience, abilities and skills, cooperation and motivation. It is important to identify factors influencing the performance of nurses to improve the quality of healthcare delivered in healthcare[4]. (4)

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The master plan for health workforce in Iran was approved in the 1990s. According to the plan, physicians and nurses could not receive their academic certificates until completing their compulsory community service (CCS) after graduation. In fact, qualifying nurses from the four-year diploma or degree in nursing have to carry out compulsory community service in designated public health institutions before their nursing qualifications are registered. Qualified registered nurses are nurses who have completed their CCS and have been recruited by the public or non-public health institutions. Public hospitals affiliated to the medical universities, which work under the supervision of the Ministry of Health, have a great desire to recruit physicians and paramedics who have to perform community compulsory service. This is mainly due to the simplicity of the recruitment process of people who are obliged to perform CCS, lack of complexity of the administrative process, no obligation to hire them after completing CCS, and having latest knowledge on their respective fields[5].

Since no previous research has compared the performance of newly-qualified nurses performing CCS with those of qualified registered nurses working in public hospitals and given the fact that this topic is regarded as a priority by the Ministry of Health, the present study aimed to compare the performance of these two groups of nurses working in hospitals affiliated to Iran University of Medical Sciences from their perspective. This study sought to investigate factors influencing the performance of two groups of nurses with different types of employment status from their perspective in order to improve the performance management processes in public hospitals.

Methods

This study was a cross sectional study. The study population included all nurses working in hospitals affiliated with the Iran University of Medical Sciences (IUMS) during 2019-2020. In total, 225 newly-qualified nurses performing their CCS and 290 enrolled experienced nurses were selected by simple sampling based on the Cochran formula. The research setting was all hospitals affiliated with the IUMS. Data were collected using the Hersey and Goldsmith (1980) organizational performance questionnaire, the ACHIEVE model, which encompasses 42 items and seven dimensions, including the Ability (four items), Clarity (seven items), support (five items), incentive (six items), evaluation (nine items), credibility (six items) and environment (five items). The items are scored based on a five-point Likert scale and Cronbach's Alpha reliability coefficient of the instrument was 0.84. The minimum and maximum scores of the instrument are 42 and 210, respectively (ability: 4 and 20, Clarity: 7 and 35, Help: 5 and 25, Incentives: 6 and 30, Evaluation: 9 and 45, Validity 6 and 30, and Environment: 5 and 25). ACHIEVE model, which considers seven variables related to effective performance – Ability, Clarity, Help, Incentive, Evaluation, Validity, and Environment – "is designed to help managers determine why performance problems may have occurred and then to develop change strategies aimed at solving these problems"[6]. Ability represents knowledge, experience and skills possessed by an employee. Well-trained employees can make more efficient use of existing assets and, subsequently, offer better products. Clarity refers to the ability of the employee to clearly understand tasks and responsibilities set by leaders or organization and know how to accomplish these tasks. Help refers to the organizational support which employees need in order to successfully accomplish tasks. Incentive refers to the motivation of the employee to

complete a task. Evaluation includes ongoing performance feedback and reviews so that employees can understand how they are doing and have an opportunity to improve performance. Validity refers to the reality, appropriateness and legality of human resources decisions made by managers. Managers need to ensure that all laws, regulations and policies are appropriate in light of laws, social practices, and company policies. Environment refers to all external factors that may affect the performance of employee such as competition, market conditions, suppliers, and government regulations. The content

and face validity of the research instrument were also approved by experts. Moreover, data analysis was performed in SPSS (version 23) using descriptive statistics and t-test.

Results

In this study, 68% of the senior nurses were female and the rest were male. On the other hand, 66% of the newly-qualified nurses were female and 34% were male. Table 1 presents the demographic characteristics of the participants.

Table 1. Demographic characteristics of the participants

Variable	Enrolled experienced nurses		newly qualified nurses performing their CCS	
Age	N	%	N	%
<30 years	104	0.36	148	0.66
30-40 years	151	0.52	56	0.25
40-50 years	35	0.12	21	0.9
Total	290	0.100	225	0.100
Gender				
Female	198	0.68	148	0.66
Male	92	0.32	77	0.34
Total	290	0.100	225	0.100
Work experience				
<3 years	38	0.13	120	0.53
3-5 years	77	0.27	105	0.47
5-1- years	116	0.40	-	-
>10 years	59	0.20	-	-
Total	290	0.100	225	0.100

1) **Is there any difference between newly-qualified nurses with experienced nurses in terms of knowledge and skills?**

Ability domain assessed two groups of nurses' perspectives on their task-relevant education, knowledge, experience, and skills required to perform their job successfully.

The results are presented in the table below
(Table 2).

Table 2. Comparison of the two groups in terms of Ability

	Type of participant	N	Mean	Standard deviation	P-value
Ability	Experienced nurses	290	12.5241	0.45160	0.001
	Newly-qualified nurses	225	15.2584	0.50073	

As Table 2 illustrates, the mean score of
ability was significantly higher among
newly-qualified nurses compared to
experienced nurses (P<0.05).

**2) Is there any difference between
newly-qualified nurses with
experienced nurses in terms of
understanding and role
perception?**

In the Clarity domain, questions
assessing employee understanding
of major organizational goals,
objectives, and priorities set in place
by the leader or organization were
asked.

Table 3. Comparison of the two groups in terms of Clarity

	Group	N	Mean	Standard deviation	Standard error of the mean	P-value
Clarity	Experienced nurses	290	20.8539	.63069	.04054	0.001
	Newly-qualified nurses	225	25.9587	.44384	.04251	

According to Table 3, the mean score of
understanding and awareness of work
requirements was significantly higher
among newly-qualified nurses compared to
experienced nurses (P<0.05).

**3) Is there any difference between
newly-qualified nurses with**
**experienced nurses in terms of
perceived organizational support?**

Help domain assessed the nurses'
perspective on support provided by
their direct managers to perform
complex tasks, the level of
cooperation with other parts of the
organization and the level of
managers' support of individual
problems.

Table 4. Comparison of the two groups in terms of perceived Help

	Group	N	Mean	Standard deviation	P-value
Help	Newly- qualified nurses	225	21.4118	0.35320	0.000
	Experienced nurses	290	16.4029	0.40117	

As Table 4 shows, the mean score of perceived help and organizational support was significantly higher among newly-qualified nurses compared to experienced nurses.

4) **Is there any difference between newly-qualified nurses with experienced nurses in terms of motivation and willingness?**

Incentive domain assessed nurses' desire to perform tasks, the level of their participation in the organization's decision-making, and the level of perceived match between their job with their interests and preferences by a number of questions.

Table 5. Comparison of the two groups in terms of Incentive

	Group	N	Mean	Standard deviation	P-value
Incentive	Experienced nurses	290	20.3061	0.62714	0.001
	Newly-qualified nurses	225	27.5058	0.50296	

As Table 5 shows, the mean score of job motivation was significantly higher among newly-qualified nurses compared to experienced nurses ($P<0.05$).

5) **Is there any difference between newly-qualified nurses with experienced nurses in terms of coaching and performance feedback?**

In the Evaluation domain, a number of questions related to the coaching and availability of the ongoing performance feedback were asked. Evaluation includes informal performance feedback and reviews so that employees can understand how they are doing and have an opportunity to improve performance. The results are presented in the table below.

Table 6. Comparison of the two groups in terms of Evaluation

	Group	N	Mean	Standard deviation	P-value
Evaluation	Newly- qualified nurses	225	44.8715	0.19752	0.001
	Experienced nurses	290	38.2961	0.44849	

As Table 6 demonstrates, newly-qualified nurses believed that a higher level of evaluation and informal feedback provided by managers compared to experienced nurses (P<0.05).

6) Is there any difference between newly-qualified nurses with experienced nurses in terms of validity?

In this domain, nurses' perceptions on validity of legal personnel practices including human resource decisions that are made by the managers were assessed through a number of questions. Table 7 presents the results for this domain.

Table 7. Comparison of the two groups in terms of Validity

	Group	N	Mean	Standard deviation	P-value
Validity	Newly- qualified nurses	225	18.2889	0.38940	0.000
	Experienced nurses	290	25.3491	0.47488	

As Table 7 indicates, the mean score of perceived validity of personnel practices including human resource decisions made by managers was significantly higher among experienced nurses   compared to newly-qualified nurses (P<0.05).

7) Is there any difference between newly-qualified nurses with experienced nurses in terms of environmental fit?

In the Environment domain, nurses were asked about the availability of sufficient resources in order to perform the assigned tasks, the need to coordinate with other individuals and units to perform assigned tasks, and the impact of shortage of resources on their performance. The results are presented in the Table 8.

Table 8. Comparison of the two groups in terms of environmental factors affecting nurses' activities

	Group	N	Mean	Standard deviation	P-value
Environmental factors	Experienced nurses	290	14.3960	0.32613	0.001
	Newly-- qualified nurses	225	18.5780	0.83927	

According to the Table 8, newly-qualified nurses perceived less environmental factors limiting their performance compared to experienced nurses (P <0.05).

Discussion

Nursing, as an integral part of the health care system, encompasses the promotion of health, prevention of illness, and care of physically ill, mentally ill, and disabled people of all ages, in all health care settings through using special sciences and skills. The present study aimed to compare the

performance of two groups of nurses, newly-qualified nurses performing their CCS with that of enrolled experienced nurses in hospitals affiliated to Iran University of Medical Sciences. Our results showed that the level of perceived ability and skills were significantly higher in less experienced nurses compared to those of more experienced ones. Passing several years after their graduation, it seems there is a gap between theoretical and clinical education of senior staff. Therefore, continuous knowledge update through further professional education is necessary to ensure their continued competency and improve nursing knowledge. A previous study compared the knowledge and performance of nurses and nursing students in Iran showed that students and nurses had same knowledge level; however; nursing students' knowledge of patient's psychological issues was higher than those of senior nurses. On the other hand, senior nurses had a more positive attitude towards patients compared to nursing students. In this regard, our findings are similar with those reported in this study[7]. Another study conducted by Dikken and colleagues reported a link between years of experience and higher knowledge levels of nurses, which is inconsistent with our findings[8].

Based on the results of the present study, the level of job clarity was significantly perceived higher among less experienced nurses compared to the senior ones. In fact, nurses' inadequate knowledge of their job descriptions, rules and standards could be a substantial barrier to the realization of their mission in providing healthcare services[9]. The new nursing training techniques are designed to improve nurses' knowledge of their job. Therefore, it could be a reason why newly-qualified nurses had a higher level of knowledge compared to senior nurses. Rashidi et al. reported that nurses' awareness about common tasks was not

desirable compared to physicians and other health care personnel. Kelly et al Identifying factors influencing the level of their knowledge of job descriptions helps managers to address deficiencies in order to promote nurses performance[10].

The results suggest that there was a significant difference in the mean scores of the Help domain between two groups, indicating a significant higher level of perceived coordination and organizational support among newly-qualified nurses compared to the senior nurses. Teamwork and collaboration among healthcare team members are essential for ensuring patient safety and quality of care[11]. Moreover, consistent with the results of similar studies, the level of collaboration was higher among less experienced nurses compared to experienced participants[10]. It seems that newly-qualified nurses were more willing to cooperate and communicate with other members of the health care team due to their greater enthusiasm and lack of burnout[11].

The results indicate that there was a significant difference between newly-qualified and senior nurses in terms of job motivation and work engagement. Motivation is one of the most important factors affecting organizational behavior[12]. On the other hand, the nursing workforce is the largest of all health professionals. Therefore, serious attention must be paid to increase nurses' motivation in order to increase their performance. Bakhshi et al. introduced self-esteem, workload, workplace stress, and income as important factors influencing nurses' level of motivation[13]. In the present study, the level of motivation was higher among newly-qualified nurses compared to that of senior ones. Job motivation is affected by various factors, including income level[14]. A study performed by Safavi et al, which aimed at investigating the relationship between nurses' quality performance and their job

satisfaction, concluded that nurses had moderate job satisfaction (75%) and (60%) of them were had a good performances from head nurses' viewpoints. Correlation coefficient indicated that there was a positive and significant relationship between job satisfaction and nurses' quality performance and its components, including responsibility, continuity in learning, application of knowledge and skills, professional ethics and quality of care[15].

Our results indicate that there was a significant difference between newly-qualified nurses with experienced nurses in terms of coaching and performance feedback. It seems that the reason for the difference between the two groups is that the majority of newly-qualified nurses consider performance evaluation process as an appropriate feedback in improving the quality of their performance[16]. They believed that providing performance feedback to employees at the individual level can also serve as an aid to employee self-development by which individuals learn about their strengths and weaknesses as seen by others and can initiate self-improvement program[16,17]. Results of the present study are consistent with those of a study conducted by El-Nemer A, Kandeel, which reported that providing performance feedback as an evaluation tool was accepted by the majority of nursing students[18]. They believed that providing fair feedback would provide vital insights into the strengths of nurse and also reveal areas that need improvement. The results of Sadeghi and et al.'s study indicated that nurses found feedback as an effective tool providing them with appropriate information on their clinical competence[19].

However, there were studies such as a study conducted by Nouhi and et al. which reported a negative perceptions of nurses regarding feedback, due to different reasons such as being subjective, unfair appraisal, and inefficiency of the organization in introducing laws and regulations[20]. The results demonstrate a significant difference between newly-qualified and senior nurses in terms of their perceptions on validity of legal personnel practices including human resource decisions made by the managers. While both senior and junior nurses had similar workloads, the less experienced ones paid a lower salary compared to more experienced ones[21]. Therefore, it could be a reason why newly-qualified nurses believed that the legal personnel practices including human resource decisions made by the managers are not valid and fair enough. This indicates the need for documentation and justification of all laws, regulations, and hospital policies made by nursing mangers.

There was a significant difference between newly-qualified and senior nurses concerning perceived environmental factors affecting nurses' activities. The healthier the work environment, the more efficient and productive the employees are[22] The fact that junior nurses were less affected by environmental factors could be related to their low level of experience. Therefore, they had less burnout and were able to adapt to the environment's conditions more easily. In a similar study, Dehghan Nayeri et al. reported the importance of environmental conditions as the most important component influencing employees' performance[23].

Since nurses play a fundamental role in providing hospital care, identifying the factors affecting their performance is of paramount importance. Factors such as environment, ability, clarity, credibility, support, and motivation played an extremely important role in the efficiency of both groups of nurses. Poor performance can have serious consequences for patients leading to increased patient hospitalization and costs, or even mortality[24]. Therefore, it is crucial for managers to identify factors influencing performance of nurses and tackle appropriate strategies to improve it in

order to improve organizational productivity and service efficiency.

Conclusion
The present study compared the perceptions of two groups of nurses (i.e. newly-qualified nurses performing their CCS with that of enrolled experienced nurses) on seven main factors influencing employee performance. There was a significant difference between the two groups regarding all dimensions. The present study's results could help managers to understand factors influencing performance of newly-qualified and senior nurses and help them in designing appropriate strategies to improve their performance.

Limitations
One of the major drawbacks of the current research was low sample size. Therefore, it is suggested that similar studies be performed on larger sample sizes to improve the generalizability of the results. In addition, further studies should be designed to investigate the relationships among these factors.

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Conflicts of Interest
None declared.

Authors' contributions
The authors are the same

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