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Original Article

Investigation of the working conditions of nurses in public hospitals on the basis of nurse-friendly hospital criteria

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ABSTRACT

Objective: This descriptive study reveals how nurses working in public hospitals rated their practice environments with respect to nurse-friendly hospital criteria.
Methods: This study was conducted on 460 nurses volunteering to participate this study among 735 nurses working in inpatient wards of three public hospitals. Data were collected using a personal information form and the Adapted Nursing Work Index–Revised. Numbers, percentages, means and standard deviations, *t*-test and one-way variance analysis were used to evaluate the data.
Results: Among the nurse-friendly hospital criteria, 'control of nursing practice', 'middle management accountability' and 'quality initiatives' had the highest mean scores, and 'competitive wages' had the lowest mean score. The assessments of the nurses presented statistically significant differences with respect to personal and occupational variables.
Conclusion: The nurses found most of the nurse-friendly hospital criteria adequate, but they believed that several areas needed improvement.
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1. Introduction

Nurses can only render quality services if their work environment provides conditions that support them [1]. Positive work environments are important in achieving patient and employee safety, quality care and favourable patient outcomes [2,3]. Healthy work environments involve all practices implemented to attain the highest level of nurse health and well-being, quality patient care outcomes, high institutional performance and positive social outcomes [4]. Work environments play an important role in securing employee health and safety and obtaining a desirable level of productivity from employees [5].

Occupying a crucial position in the development and advancement of health services, protection and improvement of individual, family and community health and provision of effective patient care and education, nursing is among the complex and risky professions in terms of working conditions [6,7]. Nurses are exposed to risks because they spend time with patients and occupy themselves with the direct care of patients [7,8]. Aside from infections, nurses face stress and overwork [9]. Nurses work in a system of shifts and night duties, and they are subjected to excessive work load, long working periods without breaks, tiring and irregular working hours, role confusion, lack of support from managers, low professional status and distressful work relationships (violence, weak communication, mean or harassing behaviour, etc.), which result in unhealthy work environments for nurses [2,10–14]. Unhealthy work environments negatively affect the performance of nurses, patient care outcomes and patient safety and cause nurses to become alienated/distracted from their profession; several of them even leave their profession, a situation that leads to a decrease in the nursing workforce [2,3,13,14]. Understaffing of nurses resulting from a decrease in the nursing workforce negatively affects the quality, efficiency and prompt realisation/provision of appropriate patient care [5].

As one of the environments that involve busy work schedules, hospitals are complex and dynamic organisations that provide services 24 h a day and seven days a week; they operate with an open system and matrix structure [16]. Public hospitals in Turkey provide extensive healthcare services [16], and many of the healthcare personnel working in public hospitals are nurses [14]. The physical and psychological health of nurses are jeopardised

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because they spend more time providing direct care to patients than other healthcare professionals, and they work in a system of shifts and night duties that involves excessive work load and long, tiring, irregular working hours without any breaks.

For improved patient outcomes, quality care and contented employees, it is necessary to assess how nurses perceive their work environments and make necessary improvements [7,8,14,17].

2. Background

The opinions and ideas that constitute the initial design of a healthy work environment date back to the time of Florence Nightingale. In her book '*Notes on Nursing',* Nightingale described a healing environment as that in which patients feel warmth and happiness. She also stated that 'healing' environments should prevail for nurses who are responsible for patient care and stressed that healthy work environments should have the necessary infrastructure to create 'healing spaces' for all medical staff [18].

Safe patient care is directly related to the quality of work environments of nurses [19]. Effective healthcare services require individuals providing such services to be physically and mentally healthy [6,8], which is only possible in healthy/positive work environments. A positive work environment involves the "creation of a business environment where policies, procedures and systems are designed for the employees to fulfil institutional goals and achieve personal satisfaction in the workplace" [18]. In other words, a healthy work environment involves practices carried out to increase the health and well-being of nurses, quality of patient care and social outcomes and institutional performance to the maximum level [4]. Nurses can render high-quality services only if their work environment provides conditions that support them [1]. Unfavourable working conditions and the risks involved in these conditions cause nurses to become distracted and alienated from their profession and even leave [2,14]. Many standards, suggestions and approaches for creating positive work environments that support superior performance, attract nurses to the profession and achieve expected patient outcomes have been established [2]. Examples include accreditation standards, magnet hospital criteria and nurse-friendly hospital criteria [4]. In its nurses' day theme for 2007, the International Council of Nurses drew attention to materialising positive practice environments and described them as involving "innovative policy frameworks focused on recruitment and retention, strategies for continuing education and upgrading, adequate employee compensation, recognition programmes, sufficient equipment and supplies and a safe working environment" [4].

Initiated in the US and adopted internationally, magnet hospitals are characterised by their capability to attract and retain well-qualified nurses to render quality healthcare services. The word magnet refers to autonomy and the nurses' engagement in defining their work environment. Magnet hospitals produce better patient outcomes than ordinary hospitals [20]. The Texas Nurses Association defined nurse-friendly hospital criteria as tools for creating a supportive healthy/positive work environment for hospitals that do not meet the magnet hospital criteria. The nurse-friendly hospital criteria consist of twelve main items, namely, control over nursing practice, safety of work environment, presence of systems dealing with patient care, nurse orientation, qualification of head nurses, professional development, competitive wages, nurse respect/recognition, balanced lifestyle, zero tolerance to nurse abuse policy, middle management responsibility and quality initiatives [15,21]. Several of the Nursing Sensitive Criteria for the Selection of European Centres of Excellence of the European Federation of Nurses Associations refer to nurse-friendly hospital criteria [22]. Arranging work environments according to these criteria enables hospitals to retain nurses and improve the quality of care [21]. Positive work environments also improve the quality of care and patient safety [3]. Rating hospitals according to nurse-friendly hospital criteria and making improvements and rearrangements in hospitals on the basis of these criteria contribute to the provision of quality nursing services, positive patient outcomes and favourable healthcare organisations. The present study was conducted due to the need to assess hospitals according to nurse-friendly hospital criteria and identify the effect of nurses' working conditions on such an assessment. This descriptive study revealed how nurses working in public hospitals rate their working conditions with respect to nurse-friendly hospital criteria.

The study addressed the following questions.1)To what extent do nurses assess their institutions with respect to nurse-friendly hospital criteria? 2) Do the assessments of nurses based on nurse-friendly hospital criteria vary according to their personal and professional characteristics?

3. Materials and methods

3.1. Study type

The study used a descriptive survey design to explore the perceptions of nurses in Turkish hospitals regarding their nursing practice environments with respect to nurse-friendly hospital criteria.

3.2. Study population and sample

The study population consisted of nurses working in inpatient clinics of three public hospitals that provide general diagnosis, treatment and care services in a province located in the east of Turkey ($N = 735$). All nurses working in the inpatient clinics of these hospitals who volunteered to participate in the study were included in the research; thus, no special sampling was required ($n = 460$). Twelve of the data collection forms were excluded from the statistical evaluation because they contained missing parts.

3.3. Data collection instruments

The study data were collected using a personal information form and the "Adapted Nursing Work Index-Revised (Adapted NWI-R)". The personal information form consisted of questions on the descriptive and professional characteristics of the nurses, including their age, education, position and professional experiences, the adequacy of the physical aspects of their work environments and their satisfaction with the clinic they work in. The nurse-friendly hospital criteria index, which is known as the Adapted Nursing Work Index-Revised (Adapted NWI-R), was prepared in 2008 by Meraviglia et al. [21] by reviewing the items of the Nursing Work Index−Revised (NWI-R) and the Practice Environment Scale and by matching the appropriate items for each nurse-friendly hospital criterion with the help of specialists. Adapted NWI-R consists of 30 items and 12 sub-criteria [21]. The Turkish version of Adapted NWI-R and its validity and reliability tests are within the framework of the principles mentioned in literature [23].

The adaptation of Adapted NWI-R to the Turkish context and its validity and reliability analyses were performed according to guidelines mentioned in literature. The back translation method was used to test the language validity of Adapted NWI-R. The index items were translated into Turkish by the investigator and two English linguists. The new Turkish version of the index was translated back into English by a linguist whose native language is Turkish and who has a good command of both languages and cultures. This translated version was compared with the original

index, and the Turkish translations of the items that did not match the original were reviewed. Necessary corrections were made, and the index items were given their final form.

The views of five experts were obtained for the content validity of Adapted NWI-R. The experts were asked to score each item from 1 to 4 (1 = not suitable, 2 = item needs to be made suitable, 3 = suitable but needs minor modifications and 4 = very suitable) to assess the index items for expediency and understandability. Following necessary modifications, pilot administration was carried out with 10 nurses.

To test the reliability of Adapted NWI-R, the item–total score correlations of the 30 items were assessed via Pearson's correlation analysis. The coefficients of the correlations the items had with the total score were found to be between $r = 0.35$ and 0.63, in the positive direction and highly significant statistically. The level of item–total score correlations is an important criterion in determining reliability in scale adaptation studies. Although the sufficiency levels of the item–total score correlation coefficients varies according to various sources, the levels are recommended to be at least 0.20 or 0.25 and 0.30 or 0.40 for strong reliability. A high correlation coefficient means the reliability of the items is strong. In the present study, the item–total score correlation of the index ranged between 0.35 (the lowest) and 0.63 (the highest), which were within acceptable limits.

3.4. Data evaluation

Data were collected from 460 nurses, and 12 data collection forms were excluded from the statistical assessment because they contained missing information. The analysis was conducted using the Statistical Package for Social Sciences for Windows (SPSS version 16; SPSS Inc. Chicago, IL, USA). The data were analysed using numbers, percentage distributions, means and standard deviations; *t*-test for parametric analyses and Mann Whitney *U* test for non-parametric analyses in paired comparisons; one-way variance analysis (ANOVA) and post hoc LSD test for parametric analyses; and Kruskal Wallis test and Dunnet's T3 post hoc test for non-parametric analyses in multiple comparisons.

The data obtained from the study were analysed using SPSS 16. Numbers, percentages, means and standard deviations, *t*-test, ANOVA, post hoc LSD test and post hoc Dunnet's T3 test were used in the analysis.

3.5. Data collection

The data were collected by the investigator through face-to-face interviews with the nurses in the said hospitals after explaining the purpose of the study to them. The data collection instruments were distributed to the nurses, and they were submitted on the same day and/or after a few days.

3.6. Ethical considerations

Approval from the Ethics Committee of Atatürk University, Health Sciences Institute (numbered 2011.1.1/3 and dated 28.02.2011) was obtained. Written permission was obtained from the authors of Adapted NWI-R [21] and from the institutions where the study was conducted. Verbal permission was also obtained from the nurses involved.

4. Results

The descriptive and professional characteristics of the nurses (Table 1) show that most of them were undergraduates (53.4%) and working in a university hospital (37.3%) either in internal units (39.0%) or special units (intensive care, emergency, operation room, etc.) (37.2%) as clinical nurses (92.2%) with a professional experience of 0–5 years (40.4%).

Table 1
Descriptive and professional characteristics of the nurses participating in the study.

Characteristics	*n*	%
Institution (*n*=448)		
University Hospital	167	37.3
Training and Research Hospital	144	32.1
State Hospital	137	30.6
Age (*n*=427)		
17-25 years	109	25.5
26-34 years	195	45.7
35 years and older	123	28.8
Gender (*n*=448)		
Female	420	93.8
Male	28	6.2
Marital status (*n*=445)		
Married	269	60.4
Single	176	39.6
Education status (*n*=444)		
Health Occupational High School	59	13.3
Associate's Degree	148	33.3
Under/Post Graduate[a]	237	53.4
Position at work (*n*=448)		
Nurse	413	92.2
Nurse in charge	35	7.8
Clinic/unit (*n*=438)		
Internal Unit	171	39.0
Surgical Unit	104	23.8
Special Unit	163	37.2
Time worked as a nurse (*n*=448)		
0–5 years	181	40.4
6–10 years	85	19.0
11–15 years	80	17.9
16 years and longer	102	22.7
Weekly working hours (*n*=442)		
32–40 h	204	46.1
41–45 h	174	39.4
46–50 h	50	11.4
51–80 h	14	3.1

Note: Since 1 person did not mention her age, 3 persons their marital status, 4 persons their education status, 10 persons their unit and 6 persons their weekly working hours, they were not included in the statistical analyses.

[a] Nine persons graduated from a postgraduate program in the grouping of the nurses' education status.

The nurses' mean scores for Adapted NWI-R (Table 2) showed that the "control over nursing practice" (3.1 ± 0.8), "middle management responsibility" (3.1 ± 0.9) and "quality initiatives" (3.1 ± 0.8) criteria had the highest mean scores and the "competitive wages" (2.5 ± 0.5), "professional development" (2.6 ± 0.7) and "safety of work environment" (2.7 ± 0.7) criteria had the lowest mean scores.

Table 2
Nurses' mean scores of nurse-friendly hospital criteria assessment index.

Nurse-Friendly Hospital Criteria	Mean ± SD
1. Control over Nursing Practice	3.1 ± 0.8
2. Safety of Work Environment	2.7 ± 0.7
3. Presence of Systems to Handle Patient Care Problems	3.1 ± 0.5
4. Nurse Orientation	2.9 ± 0.7
5. Head Nurse Qualification	3.0 ± 0.7
6. Professional Development	2.6 ± 0.7
7. Competitive Wages	2.5 ± 0.5
8. Nurse Respect/Recognition	2.9 ± 0.8
9. Balanced Life Style	2.9 ± 0.8
10. Zero Tolerance to Nurse Abuse Policy	2.9 ± 0.7
11. Middle Management Responsibility	3.1 ± 0.9
12. Quality Initiatives	3.1 ± 0.8
Total Score	2.9 ± 0.4

The nurses' assessments of nurse-friendly hospital criteria with respect to the institutions they worked in (Table 3) showed that the difference between the mean Adapted NWI-R scores with respect to institutions was statistically significant ($P<0.01$). Further analysis revealed that such a difference originated from the training and research hospital ($F=14.122$; $P<0.001$).

In the assessments of nurse-friendly hospital criteria with respect to educational status (Table 3), the difference between the educational level of nurses and their mean overall scores was found to be statistically significant ($P<0.05$). Further analysis showed that such a difference originated from graduates of the Vocational School of Health Services ($F=6.399$; $P=0.002$).

The difference between the mean overall scores of the nurses with respect to the unit/clinic they worked in (Table 3) was also statistically significant. Further analysis indicated that such a difference originated from the nurses working in internal (internal diseases) units/clinics ($F=3.978$; $P=0.019$).

The differences between the mean overall scores of the nurses pertaining to their assessments of the nurse-friendly hospital criteria with respect to having sufficient authority and responsibility in their job, participation in the decisions made by the managers of their clinics, adequacy of materials and equipment needed for their practice in the work environment, having an appropriate environment to provide safe care to patients in their unit/clinic and presence of quality initiatives in their hospital (Table 4) were statistically significant ($P<0.05$).

The assessments of the nurses of their working conditions (Table 4) showed that most of them did not find the number of nurses in the clinic sufficient (64.0%), did not find the physical work environment satisfactory (lighting, heating, ventilation, locker rooms, etc.) (64.1%), but found the tools and equipment in their work environment adequate (52.1%). In general, the nurses stated that they did not have the appropriate environment to provide safe care to patients in their units (53.4%).

5. Discussion

The results obtained regarding the descriptive and professional characteristics of the nurses participating in the study are similar to those in other studies. The descriptive and professional characteristics of the nurses (Table 1) show that the majority of them were undergraduates (53.4%), worked in internal units (39%) and spent 0–5 years in the profession (40.4%). We posit that this result was affected by the fact that nurses who were associate degree graduates could complete their undergraduate degrees by way of distant education upon the protocol made in 2009 between the Ministry of Health and the Higher Education Board in our country. Another study also reported that the majority of nurses participating in the study were graduates of associate degrees and undergraduates [24].

The number of working years being 0–5 suggests that most of the nurses employed in the hospitals where the study was conducted were new graduates. Moreover, in the study of Çetin, most of the participating nurses (52.3%) spent between 1 month and 5 years in the profession [25].

The nurses' mean scores of the nurse-friendly hospital criteria assessment index (Table 2) show that the mean score of the 'professional development' criterion is among the lowest three scores (2.6 ± 0.7) compared with the maximum score (max = 5). A similar study conducted in Lebanon reported that the mean subscale score of career development (mean 2.75) was among those with the lowest scores when compared with the maximum score (max = 4) [28]. Similarly, the "safety of work environment" criterion was among the lowest three scores (2.7 ± 0.7). Conversely, in a study by Meraviglia et al. in the US, from the nurse-friendly hospital criteria, the "safety of work environment" criterion had one of the highest three mean scores (mean 3.86) compared with the maximum score (max = 5) [15,21]. The reason for this difference may be that the hospitals in Turkey do not organise their work environments according to the needs of nurses. The nurses' mean scores of the nurse-friendly hospital criteria assessment index (Table 2) show that the criterion with the lowest mean score compared with the maximum score is "competitive wages" (2.5 ± 0.5), which suggests that the wages of nurses for their services rendered under difficult working conditions, such as excessive workloads and tiring and irregular working hours, remain highly unsatisfactory. Similarly, in a study by Meraviglia et al., the lowest score when compared with the maximum was that of "competitive wages" (mean 3.28) [15].

Comparison of the nurse-friendly hospital criteria with respect to the institution in which the nurses worked (Table 3) showed that among these criteria, the "Control over Nursing Practice", "Safety of Work Environment", "Presence of Systems to Handle Patient Care Problems", "Nurse Orientation", "Head Nurse Qualification", "Competitive Wages", "Balanced Life Style" and "Quality Initiatives" criteria had higher mean scores in those working in hospitals operating under the Ministry of Health than in those working in university hospitals; the difference was statistically significant ($P<0.05$). This difference may be due to the fact that hospitals operating under the Ministry of Health have more quality initiatives, more revolving fund payments, more nurses with respect to the number of beds, more training activities (e.g. in-service training) and better working conditions for nurses than university hospitals. The results of other studies support this finding [27,28]. In a study by El-Jardali et al., the mean "control over nursing practicescore was higher for nurses working in small hospitals than for those working in large hospitals, and a statistically significant difference was observed between them [28]. A study performed in North California also found statistically significant differences ($P<0.01$) in nurses' perception of their work environment with respect to hospital types [27].

In the comparison of the nurse-friendly hospital criteria with respect to nurses' education statuses in the present study (Table 3), the mean scores of the graduates of the Vocational School of Health Services (VSHS) were higher than those of associate degree holders and undergraduate nurses for 'professional development' and 'middle management responsibility' criteria, and the difference was statistically significant ($P<0.05$). The mean score of the nurses who graduated from VSHS was higher for the 'head nurse qualification' criterion compared with that of undergraduate nurses, and the difference between them was statistically significant ($P<0.05$). This result may be explained by the fact that VSHS graduates have few expectations from their profession. In a study by Çetin, a comparison of nurses' education status and their views on positive work environment also revealed that the mean scores of the nurses who graduated from VSHS and associate degree nurses were higher for 'professional identity' and 'professional development' compared with those of undergraduate nurses and nurses holding a master's degree or an associate professor degree; the difference between them was large and statistically significant [25].

When the nurse-friendly hospital criteria were compared with respect to the professional positions of the nurses (Table 3), the mean scores for the "safety of work environment" and "head nurse qualification" criteria were higher in the nurses in-charge (managing nurses) than in those working as ordinary nurses, and the difference between them was statistically significant ($P<0.05$). This difference may be due to the fact that managing nurses are less engaged in patient care and treatment than ordinary nurses.

A comparison of the criteria with respect to the number of years spent in the profession (Table 3) showed that nurses who have worked for 11–15 years had a higher mean score for the "nurse

Table 3
Comparison of nurses' nurse assessments of friendly hospital criteria (Adapted NWI-R) assessments with respect to their descriptive characteristics (Mean ± SD).

Characteristics		Control over Nursing Practice	Safety of Work Environment	Presence of Systems to Handle Patient Care Problems	Nurse Orientation	Head Nurse Qualification	Professional Development	Competitive Wages	Respect to Nurses	Balanced Life Style	Zero Tolerance to Nurse Abuse Policy	Middle Management Responsibility	Quality Initiatives	Index Total
Institution ($n = 448$) μ	University Hospital ($n = 167$)	2.87 ± 0.70	2.56 ± 0.67	2.98 ± 0.54	2.82 ± 0.69	2.85 ± 0.71	2.60 ± 0.72	2.44 ± 0.53	2.94 ± 0.82	2.72 ± 0.75	2.92 ± 0.80	3.04 ± 0.90	2.81 ± 0.75	2.80 ± 0.40
	Training and Research Hospital ($n = 144$)	3.19 ± 0.86	2.88 ± 0.74	3.18 ± 0.58	3.06 ± 0.75	3.14 ± 0.81	2.79 ± 070	2.54 ± 0.56	3.05 ± 0.85	3.01 ± 0.90	2.97 ± 0.77	3.34 ± 0.97	3.28 ± 0.75	3.05 ± 0.44
	State Hospital ($n = 137$)	3.30 ± 0.81	2.80 ± 0.82	3.13 ± 0.58	2.96 ± 0.84	3.06 ± 0.76	2.63 ± 078	2.68 ± 0.59	2.95 ± 0.78	3.05 ± 0.95	2.89 ± 0.75	3.10 ± 0.96	3.31 ± 0.87	3.03 ± 0.50
	F	11.911	7.564	5.121	3.876	5.988	2.932	6.667	0.776	6.641	0.350	4.170	19.732	14.122
	P	0.000	0.001	0.06	0.021	0.003	0.054	0.001	0.461	0.001	0.705	0.016	0.000	0.000
Education ($n = 444$) *μ	Health Vocational School ($n = 59$)	3.28 ± 0.90	2.95 ± 0.82	3.17 ± 0.59	3.09 ± 0.83	3.23 ± 0.61	2.97 ± 073	2.52 ± 0.64	3.10 ± 0.89	3.19 ± 0.89	3.25 ± 0.89	3.51 ± 0.92	3.13 ± 0.90	3.11 ± 0.44
	Associate Degree ($n = 148$)	3.18 ± 0.84	2.79 ± 0.70	3.16 ± 0.60	3.08 ± 0.70	3.07 ± 0.76	2.64 ± 067	2.53 ± 0.53	2.94 ± 0.78	2.99 ± 0.89	2.84 ± 0.73	3.16 ± 0.94	3.23 ± 0.84	2.99 ± 0.46
	Under/Post Graduate** ($n = 237$)	3.00 ± 0.76	2.64 ± 0.75	3.04 ± 0.55	2.82 ± 0.76	2.92 ± 0.78	2.61 ± 076	2.55 ± 0.56	2.98 ± 0.83	2.81 ± 0.84	2.92 ± 0.74	3.06 ± 0.94	3.05 ± 0.77	2.89 ± 0.45
	F	3.743	4.882	2.564	6.767	4.532	6.117	0.149	0.859	5.166	6.296	5.325	2.216	6.299
	P	0.024	0.008	0.078	0.001	0.011	0.002	0.861	0.421	0.006	0.002	0.005	0.110	0.002
Position ($n = 448$)§	Nurse ($n = 413$)	3.11 ± 0.80	2.71 ± 0.75	3.08 ± 0.57	2.94 ± 0.77	2.98 ± 0.76	2.66 ± 073	2.53 ± 0.56	2.99 ± 0.82	2.90 ± 0.87	2.92 ± 0.77	3.17 ± 0.95	3.10 ± 0.81	2.94 ± 0.46
	Nurse in-charge ($n = 35$)	3.07 ± 0.94	3.01 ± 0.74	3.22 ± 0.64	2.96 ± 0.75	3.34 ± 0.75	2.70 ± 076	2.66 ± 0.59	2.90 ± 0.82	3.07 ± 0.89	3.04 ± 0.83	3.01 ± 0.90	3.33 ± 0.88	3.05 ± 0.50
	F	0.286	−2.295	−1.324	−0.131	−2.691	−0.272	−1.22	0.591	−1.078	−1.078	0.918	−1.622	−1.329
	P	0.813	0.022	0.186	0.896	0.007	0.786	0.222	0.555	0.282	0.282	0.359	0.106	0.185
Clinic/Unit ($n = 438$) *μ	Internal Unit ($n = 171$)	3.08 ± 0.78	2.78 ± 0.74	3.13 ± 0.54	2.95 ± 0.81	3.05 ± 0.81	2.70 ± 0.67	2.51 ± 0.55	3.10 ± 0.81	2.97 ± 0.90	2.98 ± 0.77	3.36 ± 0.93	3.16 ± 0.85	3.00 ± 0.46
	Surgical Unit ($n = 104$)	3.04 ± 0.21	2.55 ± 0.76	3.04 ± 0.57	2.83 ± 0.75	2.96 ± 0.74	2.51 ± 0.79	2.50 ± 0.60	2.80 ± 0.84	2.75 ± 0.93	2.88 ± 0.76	2.93 ± 0.93	2.99 ± 0.76	2.84 ± 0.45
	Special Unit (emergency, ICU, operation room etc.) ($n = 163$)	3.19 ± 0.76	2.81 ± 0.76	3.08 ± 0.62	3.03 ± 0.72	3.01 ± 0.73	2.73 ± 0.77	2.61 ± 0.57	2.96 ± 0.80	2.98 ± 0.82	2.93 ± 0.79	3.11 ± 0.94	3.17 ± 0.81	2.98 ± 0.46
	F	1.406	4.237	0.866	2.306	0.432	3.023	1.632	4.340	2.502	0.486	7.280	1.726	3.978
	P	0.246	0.015	0.421	0.101	0.650	0.050	0.197	0.014	0.083	0.615	0.001	0.179	0.019
Years Spent in Nursing ($n = 448$) μ	0-5 years ($n = 181$)	313 ± 0.82	2.69 ± 0.78	3.03 ± 0.56	2.89 ± 0.79	2.89 ± 0.77	2.67 ± 0.75	2.51 ± 0.56	3.07 ± 0.83	2.91 ± 0.87	2.99 ± 0.77	3.23 ± 1.01	3.06 ± 0.77	2.93 ± 0.43
	6-10 years ($n = 85$)	2.90 ± 0.75	2.66 ± 0.67	3.07 ± 0.51	2.79 ± 0.72	3.08 ± 0.70	2.54 ± 0.73	2.63 ± 0.60	2.87 ± 0.81	2.85 ± 0.82	2.85 ± 0.73	3.08 ± 0.89	3.05 ± 0.87	2.90 ± 0.46
	11-15 years ($n = 80$)	3.11 ± 0.75	2.84 ± 0.74	3.12 ± 0.62	3.11 ± 0.71	3.13 ± 0.74	2.77 ± 0.69	2.56 ± 0.50	2.88 ± 0.71	3.04 ± 0.86	2.90 ± 0.77	3.06 ± 0.86	3.08 ± 0.83	2.97 ± 0.45
	16 years and more ($n = 102$)	3.23 ± 0.87	2.78 ± 0.78	3.20 ± 0.60	3.02 ± 0.77	3.07 ± 0.80	2.70 ± 0.74	2.52 ± 0.59	2.99 ± 0.86	2.88 ± 0.95	2.92 ± 0.81	3.17 ± 0.96	3.29 ± 0.85	3.01 ± 0.51
	F	2.608	1.170	1.968	2.989	2.574	1.464	0.962	1.705	0.756	0.756	0.760	1.919	1.134
	P	0.051	0.321	0.118	0.031	0.053	0.224	0.410	0.165	0.519	0.320	0.517	0.126	0.335

Note: *Given that 4 persons did not mention their education status and 10 persons their clinics, they were not included in the statistical analyses.
**In this classification of nurses' education, 9 nurses are graduates of postgraduate programs.
μ, ANOVA (One-Way Variance Analysis).
§, Independent *t* test.

Table 4
Comparison of nurses' assessments of nurse-friendly hospital criteria with respect to workplace environment.

	n	Total Score (Mean ± SD)	*t*	*P*
Adequacy of nurse staffing in clinic (*n* = 444)				
Adequate	160	2.95 ± 0.46	0.597	0.551
Inadequate	284	2.99 ± 0.45		
Having adequate authority and responsibility at work (*n*=439)				
Yes	278	3.02 ± 0.46	4.014	0.000
No	161	2.84 ± 0.44		
Participation in managerial decisions in clinic (*n*=439)				
Yes	240	3.09 ± 0.46	7.179	0.000
No	199	2.79 ± 0.40		
Adequacy of materials and tools/equipments necessary for practice in workplace (*n*=445)				
Adequate	232	3.05 ± 0.49	4.894	0.000
Inadequate	213	2.84 ± 0.40		
Physical adequacy of work environment (*n*=448)				
Adequate	161	3.00 ± 0.48	1.544	0.123
Inadequate	287	2.93 ± 0.45		
Work environment appropriate for providing safe patient care (in the unit worked for) (*n*=444)				
Appropriate	207	3.08 ± 0.48	5.667	0.000
Inappropriate	237	2.84 ± 0.41		
Quality initiatives in hospital (*n*=442)				
Yes	304	3.04 ± 0.46	5.876	0.000
No	138	2.77 ± 0.41		

Note: Given that 4 persons did not mention about the sufficiency of the number of nurses in their clinic, 9 persons about having sufficient authority and responsibility at work, 9 persons about participating in the decisions made by the managers in their clinic, 3 persons about the sufficiency of the materials and equipment required for work in their working environment, 4 persons about the circumstances in their unit for giving safe care to patients and 6 persons about the status of quality works in their hospital, they were not included in the statistical analyses.

orientation" criterion compared with those who have worked for 0–5 and 6–10 years, and the difference between their mean scores was statistically significant ($P < 0.05$). The reason for the difference may be better adaptation to the work environment, colleagues, team work and working conditions as professional experience improves.

The majority of the nurses in the study (64%) stated that the number of nurses in their clinic was inadequate for nursing care (Table 4). The reason may be that existing nurses have not been deployed properly in the institutions they work for. In a study performed in Iceland, 73.9% (138) of the participating nurses stated that the number of nurses working in their clinics was insufficient [26].

Table 4 shows that the mean overall scores of the nurses on their assessments of the criteria were higher in those who had adequate authority and responsibility than in those who did not; in those who participated in managerial decisions in their clinics than in those who did not; in those who had adequate materials and equipment necessary for their practice than in those who did not; in those who had a suitable environment for providing safe patient care in their units than in those who did not; and in those who had quality initiatives in their hospitals than in those who did not. Other studies also support these results [25]. A study on this subject reported that a low level of nurses' participation in decisions in their work environment leads to professional burnout [28]. El-Jardali et al. found statistically significant differences between nurses with and without accreditation who worked in hospitals [28].

Most of the nurses in the present study (64.1%) stated that they did not find the work environment physically adequate, and the environment was unsuitable for providing safe patient care. The reason may be that the physical conditions in hospitals may not have been organised according to the needs and work requirements of nurses.

Employing a sharing-based management system in the work environment confers authority to nurses and increases their participation in institutional affairs.

Hospitals that have a suitable environment for providing safe care to patients are places where high job satisfaction, adequate physical work environment, systems for patient care and quality initiatives prevail.

The presence of quality initiatives in hospitals may produce positive results for employees in terms of staffing quality and enabling professional development through trainings. With quality initiatives, it may be possible to question patient care in all its aspects.

5.1. Limitations and generalisability of the study

The study was limited to nurses working in three public hospitals in the province of Elazığ. The assessments of the working conditions of the nurses were limited to the personal statements of nurses.

6. Conclusions and suggestions

The results of this study, which was carried out to determine how nurses working in public hospitals rate their working conditions with respect to nurse-friendly hospital criteria, indicated that the nurses' evaluations of their working conditions and assessments of the abovementioned criteria exhibited statistically significant differences with respect to personal status variables, such as institutions, education statuses and professional experiences.

In line with the results obtained from the study, we suggest the following:

- Carry out further studies in our country to assess the working conditions of nurses with respect to nurse-friendly hospital criteria in other sample groups.
- Make necessary improvements and developments in nursing services in line with nurse-friendly hospital criteria.
- Encourage all members of the nursing profession to contribute to the development of a hospital policy that supports a professional work environment.

6.1. Implications for nursing

Further studies can be conducted to improve areas related to nurse-friendly hospital criteria and reveal how such improvements are reflected in services. Assessments of these criteria may serve as a guideline for managing nurses in creating/developing positive work environments for providing quality nursing services; they might help nursing leaders/managers understand how nurses perceive their work environment and how it influences their work and the care they provide. The results can be utilised by nurse managers to improve the quality of nursing services, achieve positive patient outcomes and have contented nurses.

Assessing nurse-friendly hospital criteria, which were designed to improve the work environment of nurses, can bring about improvements in nurse retention and staffing, quality of care, work environment, safety of patients and nurses and provision of quality nursing services, resulting in the overall development of nursing.

6.2. Implications for nursing policy

Designed to improve the work environment of nurses, nurse-friendly hospital criteria can be used to achieve improvements in nurse retention, nurse staffing and quality of care.

Appendix A. Supplementary data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.ijnss.2018.01.001.

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