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Factors related to the perceptions of nurses about the work environment

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Abstract

This study was planned descriptively in order to determine nurses' perceptions of the working environment and the factors affecting it. This study was conducted with the participation of 186 nurses who worked in a university hospital between 17.05.2021 and 24.05.2021 and agreed to participate in the study. The data in the study were collected using a questionnaire consisting of 21 questions that determined the sociodemographic and professional characteristics of the nurses and the Working Environment Scale. One-way analysis of variance test, Kruskal–Wallis test and Mann–Whitney *U* test were used in the evaluation of the data. The Working Environment Scale scores were determined to differ according to certain sociodemographic and occupational characteristics such as the service that nurses work in, working year, manner of work, the state of willingness to choose the profession, satisfaction with the service they worked in and the average number of patients they gave daily care.

Keywords: Environment, nursing, perception, work(ing), work environment.

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1. Introduction

It is extremely important for care environments where healthcare services are provided to be suitable to protect patient and employee safety and to have features that can provide targeted care. Nurses who have important roles in this sense are considered as a stressful occupational group that is most affected by the factors in the work environment and that has an intense workload [2], [7], [14].

The concept of work environment involves issues such as working hours, physical environment, occupational health and safety and also contains factors such as professional identity, autonomy, effective communication and leadership, participation in decision-making, meaningful work, relationships with managers and other colleagues, promoting professional development and learning, physical and psychological safety and team work [1], [5], [11].

Qualified service demands of patients, technological change and development, competition of hospitals and some ethical issues make it necessary to ensure employee satisfaction [11]. Considering that nurses constitute the largest workforce in hospitals providing care and treatment services and that the shortage of qualified nurses is gradually growing, the importance of a work environment that will create the desire to stay in the institution is increasing day by day [1]. Due to shortages in staff and uncertainties in job description, nurses are often unable to work in duties that are proportional to the education they receive. There are also deficiencies in professional organisation of healthcare workers. All of these factors complicate the stressful and harsh working conditions in health sector, even under normal conditions [16], [11].

Employees are directly affected by all the negative or positive variables of the work environment. Especially in hospitals, the work environment should have a therapeutic environment for the benefit of healthcare workers and patients (Saygili, 2011). Problems in work environment, dissatisfaction experienced by nurses, conflict with managers, emotional stress, role ambiguity, role conflicts, extreme work load, conflicts with patients, working in shifts, working in units other than their wishes and long working hours, working with patients who need critical care, accidents and risks affect physical, mental and social health negatively and create problems in fulfilling professional roles. Therefore, it is stated that protecting and maintaining employee health is important among the characteristics of a safe, efficient and qualified work environment. Nurses who work in a healthy work environment affect not only themselves, but also the people they provide care for [2], [4], [9], [14].

When nurses are satisfied with their situation in the work environment, they use their energy for patient care and provide healthcare services with higher quality and more sacrifice. It is important for the work environment to have therapeutic characteristics for the benefit of healthcare workers and patients [1], [2], [7]. This study will determine the perceptions of nurses about the work environment and the factors affecting these; develop suggestions to support the quality of work environments and the services provided and increase patient safety; patient/employee satisfaction; and the quality of nursing care. It is also thought that the results obtained from this study will contribute to developing appropriate strategies in reaching national and international health purposes.

1.1. Aim of the study

This study was planned as a descriptive study to find out the work environment-related perceptions of nurses working in a university hospital and the factors affecting their perceptions. Answers were sought to the following questions in this study:

- What are work environment-related perceptions of nurses?
- What are the sociodemographic and professional characteristics that affect work environment-related perceptions of nurses?

2. Material and methods

2.1. Place and time of the study

This descriptive study was carried out between May 17 and May 24, 2021 with nurses working in a university hospital.

2.2. Place and time of the study

The study was carried out with the participation of 186 nurses who worked in a university hospital and who agreed to participate in the study. Female and male nurses who volunteered to participate were included in the study. The dependent variable of the study was work environment-related perceptions of nurses. The independent variables of the study were sociodemographic and professional characteristics of nurses.

2.3. Data collection tools

The data were collected by using the Nurse Introductory Information Form and Work Environment Scale. The information form includes 21 questions about the sociodemographic and professional characteristics (age, gender, education, marital status, family type, number of children, family income status, the unit nurses worked in, their duty in the unit, length of service as a nurse, length of service in the current hospital, length of service in the current unit, the total number of nurses working in the unit, employment status in the hospital, style of employment, the state of choosing the profession willingly, the state of loving the profession, the state of being satisfied with the unit, the state of choosing the department willingly, total number of weekly working hours and the average number of patients daily cared for) of nurses.

2.3.1. Work Environment Scale

The Work Environment Scale is a 26-item, 5-factor scale developed by Blegen et al. [3] and adapted into Turkish by Sezgin [12]. The six items in the scale (9, 12, 14, 17, 18 and 20) represent quality management, three items (8, 13 and 15) represent physical resources, four items (10, 11, 16 and 19) represent professional relationships, seven items (1–7) represent personnel fears and six items (21–26) represent job satisfaction. In the scale, each item is scored from 1 to 5 and each item is evaluated as ‘Strongly disagree (1)’, ‘Disagree (2)’, ‘Neutral (3)’, ‘Agree (4)’ and ‘Strongly agree (5)’. In the scale, the items ‘Existing facilities prevent me from giving the best care to my patients (15)’, ‘I’ve been disappointed ever since I’ve started doing this job (21)’, ‘Every workday seems to never end (23)’ and ‘Most of the time, I force myself to go to work (24)’ are reversely scored. The minimum possible score from the scale is 26, while the maximum possible score is 130. The scores of the scale can be calculated according to factor mean scores. Quality management is evaluated as 30 points, physical resources is evaluated as 15 points, professional relationships is evaluated as 20 points, personnel fears is evaluated as 35 points and job satisfaction is evaluated as 30 points. An increase in factor scores means positive evaluation of the factor that constitutes the work environment. The mean score of the Work Environment Scale and mean factor scores are taken as the cut-off points and the values above the mean score are evaluated as high level and those below the mean are evaluated as low level. In addition, the total score from five factors shows the work environment total score. It is accepted that satisfaction with work environment increases as the Work Environment Scale score increases.

Sezgin [12] found the Work Environment Scale total Cronbach’s alpha reliability coefficient as 0.74 and Cronbach’s alpha reliability coefficients of the five factors were found as 0.77 for personnel fears, 0.77 for quality management, 0.67 for professional relationships, 0.62 for physical resources and 0.70 for job satisfaction. In the present study, the Work Environment Scale total Cronbach’s alpha reliability coefficient was found as 0.69 and Cronbach’s alpha reliability coefficients of the five factors were

found as 0.74 for personnel fears, 0.79 for quality management, 0.76 for professional relationships, -0.61 for physical resources and 0.76 for job satisfaction.

2.4. Data collection

The ethical standards of the Declaration of Helsinki were followed in this study. Permission to use the scale was taken from Sezgin [12] who adapted the scale into Turkish through email. The data were collected by the researchers and informed consent was taken from the nurses. After the nurses who agreed to participate in the study were explained about the study, they were given the Information Form and Work Environment Scale. The nurses were not given time limit to fill in the scale forms. The nurses were told that it was their decision to participate in the study, their names would not be written in the forms and the data collected would be used only within the scope of the study. The data collection process was completed in about 8–10 minutes.

2.5. Evaluation of the data

Statistical analysis of the data of nurses included in the study was conducted by using Statistical Package for the Social Sciences 23.0 package programme in computer environment. Percentage, one-way analysis of variance (ANOVA), Kruskal–Wallis test, independent samples *t*-test, Mann–Whitney *U* test and Cronbach’s alpha coefficient were used in the assessment of data. The results were presented as frequency, percentage, mean and standard deviation. The level of significance was taken as $p < 0.05$.

3. Result

A total of 186 nurses participated in this study. It was found that 81.7% of the nurses in the study were female, 18.3% were male, 72.6% were married, 46.2% had an undergraduate degree, 94.6% had a nuclear family, 39.2% had two children, 59.7% had a moderate monthly income, 39.8% were working in surgical department, 92.5% were working as clinical nurses, 48.9% had worked as nurse for 11–22 years, 52.7% had worked in their current hospital for 1–7 years, 62.4% had worked in their current unit for 1–6 years, 5–11 nurses were working in the units of 69.4%, 95.7% were permanent employees, 48.4% were working in shifts, 75.3% had chosen nursing profession willingly, 69.4% loved their profession, 60.2% were satisfied about the unit they worked in, 53.2% chose the department they worked in willingly, 71.5% worked for about 40–52 hours a week, 82.8% provided care for 2–40 patients on average in a day and mean age was found as 35.74 ± 7.59 years (Table 1).

Table 1. Distribution of nurses’ sociodemographic and working life characteristics (n = 186)

	Features	n	%
Age groups	21–30 years of age	56	30.1
	31–40 years of age	85	45.7
	≥41 years of age	45	24.2
Gender	Female	152	81.7
	Male	34	18.3
Marital status	Married	135	72.6
	Single	51	27.4
Education status	Health vocational high school	23	12.4
	Associate degree	65	34.9
	Licence	86	46.2
	Degree	12	6.5

Family structure	Extended family	10	5.4
	Nuclear family	176	94.6
Number of children	One	42	22.6
	Two	73	39.2
	Three	15	8.1
Monthly income status	2,100–3,500 TL	47	25.3
	3,600–4,500 TL	111	59.7
	≥4,600 TL	28	15.1
Service worked	Internal units	28	15.1
	Surgical units	74	39.8
	Emergency	36	19.4
	Intensive care	13	7.0
	Other units	35	18.8
Duty in the service	Service nurse	172	92.5
	Head nurse	14	7.5
Length of service as a nurse	1–10 year	72	38.7
	11–22 year	91	48.9
	23–35 year	23	12.4
Length of service in the current hospital	1–7 year	98	52.7
	8–15 year	65	34.9
	16–25 year	23	12.4
Length of service as a nurse in the current unit	1–6 year	116	62.4
	7–12 year	48	25.8
	≥13 year	22	11.8
The total number of nurses working in the service	5–11 nurse	129	69.4
	12–19 nurse	22	11.8
	20 nurses or more	35	18.8
Work Status	Permanent	178	95.7
	Contractual	8	4.3
Way of working	All day long	69	37.1
	Shift	90	48.4
	Night and day	27	14.5
The state of choosing the profession voluntarily	Yes	140	75.3
	No	46	24.7
The state of loving the profession	Like	129	69.4
	Dislike	15	8.1
	Indecisive	42	22.6
The state of being pleased with the unit	Satisfied	112	60.2
	Partially satisfied	63	33.9
	Not satisfied	11	5.9
The state of choosing the	Yes	99	53.2

unit willingly	No	87	46.8
Total weekly work hours	40–52 hours	133	71.5
	53–64 hours	53	28.5
The mean number of patients cared for in a day	2–40 patients	154	82.8
	41–100 patients	13	7.0
	101–150 patients	4	2.2
	151 patients and more	15	8.1

The Work Environment Scale mean score of nurses was found as 94.31 ± 10.84 . Median scores of factors were found as 24.57 (7–31) for personnel fears factor, 19.67 (7–26) for qualified management factor, 13 (6–16) for professional relationships factor, 8.67 (3–12) for physical resources factor and as 17.67 (5–26) for job satisfaction factor. It was found that nurses got the highest score in ‘personnel fears’ factor and the lowest score in ‘physical resources’ factor (Table 2).

Table 2. Work Environment Scale and factors median scores

Scale sub-dimensions	AM \pm SD
	Med (Min–Max)
Work environment Scale	94.31 \pm 10.84
Staff fears	24.57 (7–31)
Quality management	19.67 (7–26)
Professional relationships	13.0 (6–16)
Physical resources	8.67 (3–12)
Job satisfaction	17.67 (5–26)

Min: Minimum; Max: Maximum; SD: Standard deviation;
AM: Arithmetic mean.

When nurses’ sociodemographic and work life characteristics and the Work Environment Scale median scores were compared, statistical differences were found in terms of gender ($U = 1,879.50$, $p = 0.013$), unit worked in ($F = 2.849$, $p = 0.025$), duty in the unit ($t = -3.113$, $p = 0.002$), length of service ($F = 4.077$, $p = 0.019$), length of service in the current hospital ($\chi^2 = 8.655$, $p = 0.013$), length of service in the current unit ($F = 7.347$, $p = 0.001$), the total number of nurses working in the unit ($\chi^2 = 6.761$, $p = 0.034$), type of employment ($\chi^2 = 12.167$, $p = 0.002$), the state of choosing the profession willingly ($t = 2.736$, $p = 0.007$), the state of loving the profession ($\chi^2 = 30.904$, $p = 0.01$), the state of being satisfied with the unit ($F = 17.490$, $p = 0.001$) and the mean number of patients daily cared for ($\chi^2 = 10.995$, $p = 0.012$) (Table 3).

In line with the results obtained, it was found that female nurses, those who were working in intensive care, those who were head nurses, those who had worked in their current hospital for 8–15 years, those who had worked in their current unit for 13 years and longer, those who had 12–19 nurses working in their unit, those who were working continuously during the day, those who chose the profession willingly, those who loved the profession, those who were satisfied with the unit they worked in and those who provided care for a mean of 2–40 in a day, had a higher Work Environment Scale score. No statistically significant difference was found between nurses’ Work Environment Scale scores and their age groups ($U = 1.708$, $p = 0.426$), marital status ($U = 3,882.50$, $p = 0.179$), educational status ($F = 0.965$, $p = 0.410$), family type ($t = -1.379$, $p = 0.170$), number of children ($\chi^2 = 0.340$, $p = 0.844$), monthly income status ($F = 2.602$, $p = 0.077$), employment status ($U = 863.0$, $p = 0.311$), the state of choosing the unit willingly ($t = 1.681$, $p = 0.094$) and total weekly work hours ($t = 0.158$, $p = 0.875$) (Table 3).

Table 3. Comparison of nurses' sociodemographic and work life characteristics and their Work Environment Scale scores

	Features	Med (Min–Max) AM ± SD	p value Test value
Age groups	21–30 years of age	94.1 (65–115.2)	$p = 0.426$
	31–40 years of age	93.2 (69.1–125.2)	$U = 1.708$
	≥41 years of age	94.2 (62.1–125.2)	
Gender	Female	94.2 (62.1–125.2)	$p = 0.013$
	Male	90.1 (65–109.2)	$U = 1,879.50$
Marital status	Married	93.1 (62.1–125.2)	$p = 0.179$
	Single	98.1 (65–117.2)	$U = 3,882.50$
Education status	Health vocational high school	91.8 ± 8	
	Associate degree	93.6 ± 11.8	$p = 0.410$
	Licence	95.6 ± 9	$F = 0.965$
	Degree	93.5 ± 19.2	
Family structure	Extended family	89.7 ± 12.6	$p = 0.170$
	Nuclear family	94.6 ± 10.7	$t = -1.379$
Number of children	One	94.1 (62.1–125.2)	$p = 0.844$
	Two	94 (77.1–117.2)	$\chi^2 = 0.340$
	Three	93.1 (82.1–117.2)	
Monthly income status	2,100–3,500 TL	93.5 ± 9.7	$p = 0.077$
	3,600–4,500 TL	95.6 ± 10.3	$F = 2.602$
	≥4,600 TL	90.6 ± 13.8	
Service worked	Internal units	96.4 ± 9.9	
	Surgical units	96.2 ± 10.3	$p = 0.025$
	Emergency	90 ± 11.8	$F = 2.849$
	Intensive care	96.6 ± 13.2	
	Other units	92.2 ± 9.5	
Duty in the service	Service nurse	93.6 ± 10.5	$p = 0.002$
	Head nurse	102.8 ± 12	$t = -3.113$
Length of service as a nurse	1–10 year	91.5 ± 10.3 ^a	$p = 0.019$
	11–22 year	95.9 ± 11.1 ^b	$F = 4.077$
	23–35 year	96.9 ± 9.9 ^{ab}	
Length of service in the current hospital	1–7 year	91.6 (62.1–115.2)	$p = 0.013$
	8–15 year	95.2 (77.1–125.2)	$\chi^2 = 8.655$
	16–25 year	94.2 (82.1–117.2)	
Length of service as a nurse in the current unit	1–6 year	93.2 ± 10.5 ^a	$p = 0.001$
	7–12 year	93.4 ± 10.3 ^a	$F = 7.374$
	≥13 year	102.4 ± 11 ^b	
The total number of nurses working in the service	5–11 nurse	94.1 (62.1–125.2)	$p = 0.034$
	12–19 nurse	96.6 (79.2–125.2)	$\chi^2 = 6.761$
	20 nurses or more	89.1 (65–109.2)	
Work Status	Permanent	94.1 (62.1–125.2)	$p = 0.311$
	Contractual	100.2 (78.1–109.2)	$U = 863.0$
Way of working	All day long	96.1 (62.1–125.2)	$p = 0.002$
	Shift	93.6 (65–115.2)	$\chi^2 = 12.167$
	Night and day	88.1 (69.1–106.1)	
The state of choosing the profession	Yes	95.5 ± 11	$p = 0.007$
	No	90.6 ± 9.6	$t = 2.736$

voluntarily			
The state of loving the profession	Like	97.1 (62.1–125.2)	$p = 0.01$ $\chi^2 = 30.904$
	Dislike	85.1 (73.2–102.2)	
	Indecisive	88.6 (77.1–111.1)	
The state of being pleased with the unit	Satisfied	97.7 ± 10.4 ^a	$p = 0.001$ $F = 17.490$
	Partially satisfied	89.8 ± 9.7b	
	Not Satisfied	85.1 ± 6.6b	
The state of choosing the unit willingly	Yes	95.6 ± 11.5	$p = 0.094$
	No	92.9 ± 9.9	$t = 1.681$
Total weekly work hours	40–52 hours	94.4 ± 11	$p = 0.875$
	53–64 hours	94.1 ± 10.6	$t = 0.158$
	2–40 patients	94.2 (62.1–125.2)	
	41–100 patients	86.1 (65–109.2)	$p = 0.012$
The mean number of patients cared for in a day	101–150 patients	88.6 (79–102.2)	$\chi^2 = 10.995$
	151 patients and more	94 (67–106.2)	

AM: Arithmetic mean; SD: Standard deviation; F : One-way ANOVA test statistics; χ^2 = Kruskal–Wallis test statistic; t : Independent sample t -test statistic; U : Mann–Whitney U test statistics.

^{a-b}: There is no difference between groups with the same letter.

4. Discussion

In this study, which was conducted to find out the work environment-related perceptions of nurses and the associated factors, it was found that nurses had higher than moderate Work Environment Scale scores. When the literature is reviewed, it can be seen that in studies examining the work environment-related perceptions of nurses, in parallel with the results of the present study, it was reported that nurses had higher than moderate work environment perception levels [2], [5], [8]–[10], [15], [17], (Tamdag et al., 2015).

In this study, it was found that the Work Environment Scale median scores differed in terms of some sociodemographic and professional characteristics of nurses. While an increase in scale scores means increase in satisfaction with work environment, it was found that female nurses, those who were working in intensive care, those who were head nurses, those who had worked in their current hospital for 8–15 years, those who had worked in their current unit for 13 years and longer, those who had 12–19 nurses working in their unit, those who were working continuously during the day, those who chose the profession willingly, those who loved the profession, those who were satisfied with the unit they worked in and those who provided care for a mean of 2–40 patients in a day, had a higher Work Environment Scale score.

In parallel with the results of the present study, in studies conducted on the topic, it was reported that head nurses, those who had a longer length of service, those who cared for fewer patients in a day and those who chose the profession willingly had higher work environment satisfaction (Altinoz, 2017) [9], [14]. It is thought that this may be associated with the fact that professional communication develops, employees adapt to the institution they work in and professionalism and professional experience increase as length of service increases. In addition, in a study conducted by Karamanoglu et al. [6], it was found that head nurses evaluated their professional communication as better. In the same study, it was found that age groups of nurses, their marital status, their educational status, family type, number of children, monthly income status, work status, the state of choosing the unit willingly and total weekly working hours did not affect their satisfaction about work environment.

In parallel with the results of the study, it was found in Tamdag et al.'s (2015) study, which examined the effects of nurses' work environment on job satisfaction, that gender affected satisfaction with work environment and female employees had higher work environment scale scores than male employees. Unlike the results of the study, in a study by Bingol [5], evaluating nurses' work environment in terms of patient and nurse safety, it was reported that professional experience, type of employment and the number of patients cared for did not affect satisfaction about work environment. In another study conducted on the topic, it was reported that nurses' states of being satisfied with the unit they worked in affected work environment satisfaction and nurses who were satisfied with the unit they worked in had higher Work Environment Scale scores [13].

When the Work Environment Scale factor scores were examined, it was found that nurses got the highest score in 'personnel fears' factor and the lowest score in 'physical resources' factor. In Mollaoglu et al. [9], Tan et al. [14], Tambag et al. [13] and Altinoz's [1] studies, when nurses' Work Environment Scale factor scores were examined, it was found that nurses got the highest score in 'personnel fears' factor and the lowest score in 'physical resources' factor. When personnel fears are examined, it can be seen that nurses are afraid of encountering a negative situation when they make mistakes, getting a punishment and unwanted consequences if they make an error in drug administration and afraid of their colleagues seeing them as insufficient. When physical resources are examined, it is thought that nurses are not satisfied with the physical resources and their work environment.

It is inevitable for high or low mean Work Environment Scale scores of nurses to affect public health, patient and employee safety and delivery of qualified service. Therefore, it can be said that improving professional communication, adaptation to the institution, satisfaction with the work environment and working conditions together with the increase in length of service will increase employee and patient satisfaction.

5. Conclusion

In this study, it was found that nurses had higher than moderate work environment satisfaction levels. It can be thought that the study will be a guide in defining the strong and weak areas of nurses' work environments. In line with the results obtained, it is recommended to build quality safety systems to increase the satisfaction of nurses about work environment, managers to consider patient/nurse ratios while planning human power and to encourage employees to report undesired events related with patient and employee safety.

6. Limitations of the study

The fact that long-term observations were not made to evaluate the accuracy of the responses given by nurses in the study to data collection tools is a limitation of this study.

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