Workplace culture in psychiatric nursing described by nurses

(Short title: Workplace culture in psychiatric nursing)

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Ethical approval

Based on Medical Research Act (488/1999) in Finland no statement from Ethical Committee was needed. No ethical issues were identified and study was conducted under the guidance provided by the Declaration of Helsinki (2013).

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Abstract

Aim: This study looks to describe the workplace culture from the viewpoints of stress, job satisfaction and practice environment. Methods: Data were collected from nurses (n=109) using a web-based survey, *The Person Centred Nursing Index*, from two purposefully selected hospital districts in Finland. Data were statistically analyzed. Results: Nurses described their workplace culture in slightly positive terms. Nurses only occasionally experienced stress (mean 2.56, SD 0.55), and were fairly satisfied with their job (mean 4.75, SD 0.66) and their practice environment (mean 4.42, SD 0.81). Demographic variables such as the nurses' age, length of time in nursing, time at their present hospital, working shifts, and their use of patient restriction were more frequently associated with their perceived workplace culture.

Conclusion: Older nurses and those with a longer work history in the nursing profession tended to be more satisfied with their workplace culture in psychiatric nursing. Young and/or newly graduated nurses felt more negatively on their workplace culture; this issue should be recognized and addressed with appropriate support and mentoring. Nurses who used restrictive measures were more often less satisfied with their workplace culture. Continuous efforts are needed to reduce the use of coercive measures, which challenge also the managers to support nursing practice to be more person-centred.

Introduction

During recent years there has been a global shortage of nurses (1, 2). Nurses are thinking of changing their profession, and the most common reasons given are that work is too stressful, there are few possibilities for career development, and that their workplace culture is not perceived as supporting their work (3, 4). In Finland, 25 % of nurses under 30 years of age are reported as considering a change of profession (4). Therefore, workplace culture is an important issue when the shortage of nurses is seen as influencing the day-to-day life of nurses (5).

In recent decades, the provision of psychiatric services has changed dramatically in both hospitals and outpatient services through a process of deinstitutionalization. During the 1990s, psychiatric and somatic health care systems became integrated in Finland (6). This trend can also be seen on an international level, with decreasing lengths of stay in the hospital setting and increasing psychiatric patient numbers being seen in community care (7). These changes have had an effect on the workplace culture in psychiatric hospitals. The work demands more flexibility from nursing staff, e.g. in how they have used to work while the lengths of patients' stay decreases and the new requirements for the care in shorter period need to be fulfilled. (8). There is some research about workplace culture in psychiatric nursing, for example from the point of view of resistance to change (9), coercive measures (10, 11), and the use of restraint (12). However, to our knowledge there is a dearth of research concerning the workplace culture from the psychiatric nursing point of view. This study looks to describe the workplace culture from the viewpoint of stress, job satisfaction and working environment.

Background

Workplace culture reflects the values that persons share in their workplace, including the norms, assumptions, social order and beliefs that the workplace holds (13, 14, 15). Sullivan and Decker (16: 27) describe workplace culture as the unstated "rules of the game". It is essential to have some common values and beliefs that could be shared, as the staff work together towards achieving goals in their workplace. Workplace culture has an influence on employee performance (13). As such, leaders, managers and employees, need information that can be used to evaluate the current situation in the workplaces, and to establish what kind of changes are needed to be made in order to develop the workplace culture, and also to evaluate the outcomes of these changes (5).

The elements of workplace culture e.g. job stress, job satisfaction and the practice environment affect nurses' motivations to work in the nursing profession and their likelihood to stay at a particular place of work (17). Stress entails: "an individual's perception of a stimulus as overwhelming, which in turn elicits a measurable response resulting in a transformed state" (18: 71). In psychiatric nursing, sources of stress are seen as workload, relationships with other people, and conflicts in the workplace (19, 20). Job satisfaction is defined as how favourable nurses see their job (3). The job satisfaction of psychiatric nurses is affected by issues such as being collegial to others, patient-related work, changes at work, and autonomy (21). The practice environment means the physical environment where nurses work, but also reflects issues such as autonomy, leadership and the relationships with other professionals in the work place (22). A clean, functioning practice environment has been seen to raise psychiatric nurses' enthusiasm for their work and also to raise the quality of care that they provider (21 Psychiatric nurses have identified teamwork, control over practice, leadership and autonomy as areas that influence their practice environment (8). In this research, job stress, job satisfaction and the practice environment are seen as the dimensions of workplace culture.

In Finland, municipalities are responsible for the provision of social and health care services for people who experience mental illnesses or disorders. Most of the municipalities purchase psychiatric hospital services from hospital districts because psychiatric hospital care is defined as specialized medical care according to Finland's Act on Specialized Medical Care (1062/1989), The Mental Health Act (1116/1990) and The Health Care Act (1326/2010) (23, 24, 25).

Aim of the study

This study looks to describe the workplace culture from the viewpoint of stress, job satisfaction and practice environment. More specifically our research questions were: How do psychiatric hospital nurses' describe their workplace culture, and which variables are associated with it?

Methods

Design and setting

The cross-sectional data were collected in two purposefully selected hospital districts in Finland from September 2014 – January 2015. Questionnaires distributed to all of the nurses (N=577) who worked in adult psychiatric hospital settings in the selected districts, and included head nurses, registered nurses, mental health nurses and licensed nurses.

Instrument

Data were collected using a structured standardised questionnaire. The first part of the questionnaire covered demographic details (e.g. their age, sex, and marital status), and their workplace (e.g. occupation, working length in mental health nursing, frequency of deprivation of patient's liberty) (**table 1 and 2**). The second part of the questionnaire comprised of the Person Centred Nursing

Index (PCNI) by Slater and McCormack (2007), which has been reported to be valid and reliable (e.g. 26, 27). The permission to use the instrument was received from the copyright holders. Previously the instrument measures of homogeneity has been good, with a Cronbach's alpha range of 0.57–0.92 (2009). In this study, the Cronbach's alpha range was from 0.58–0.95, with all but one construct achieving satisfactory scores.

The PCNI measures three factors of workplace culture: nurses' stress, satisfaction and their practice environment, which are divided into 19 constructs **(table 3)**. The instrument has 78 items that are evaluated with a seven-point (1 = never/no stress/very dissatisfied/strongly disagree to 7 = always/extreme stress/very satisfied/strongly agree) Likert-scale. Due to some technical issues, one item was missing from the total sum of the working environment. One missing item could have affected the total sum of stress.

Data collection

Permission to conduct the study was obtained from the hospital districts administrations and no statement from Ethical Committee was needed based on Medical Research Act (488/1999) of Finland (28). All participants received an e-mail from a Chief Nursing Officer, which contained a link to the web-based questionnaire and information regarding research. The link was anonymous, in that neither the researcher nor the organization involved were able to identify the people or facilities that were used to answer the questionnaire.

Sample

A total of 109 nurses completed the questionnaire, which represents an 18.9% response rate.

Data analysis

Data were analysed using standard descriptive statistics. The individual 78 items of workplace culture were summed based on the instrument manual to 22 summary variables, which contained

between 3 to 35 items (**table 3**). Three of the 22 summary variables are the factors of workplace culture (stress, satisfaction and practice environment), which together consist of 19 constructs of workplace culture. These variables were analysed in order to determine their normal distribution using histograms and the Kolmogorov-Smirnov test. Five sum variables were normally distributed and 17 were skewed. Non-parametric tests were used to address the issue of non-normality of distribution of data.

Of the background factors, reclassification was used for the variables of restrictions and coercive measures, based on how often nurses needed to deprive patients of liberty. New classes were constructed that we could explore relationships between workplace culture and restrictions and coercive measures. These responses were scored as: rarely = 1, monthly = 2, weekly = 3 and daily = 4. The new classes constructed in restrictions gave a total of points 3-6 meaning 'rare' and 7-12 points meaning 'often'. In relating to coercive measures, a total of 5-10 points means 'rare' and 11-20 points means 'often'. The new class 'rare' is used to demonstrate that nurses are using restrictions and coercive measures more rarely than a weekly basis.

Differences for demographic variables among the characteristics of workplace culture were tested using parametric and non-parametric tests. We used t-test, one-way Anova, Kruskal-Wallis-test and Mann-Whitney U-test. However the group responses to the working time variable was too small to test for differences occurring within groups. The significance level was set at $p < 0.05$ and the data were analyzed with statistical package for the social science 22.0 (SPSS) (29).

Results

Background factors

Nurses were aged from 22–69 years old (mean=42.1, SD 11.8). More than half of the nurses were female (62.4 %) and three quarters (75.7%) worked as a registered nurse (**table 1**). Wards had an average of 16 beds (SD=2.4) and the average caseload was 15 patients (SD=2.79). At the time of

the survey, wards had an average of 6 patients who were under observation or being treated against their own will (SD=5.28).

Insert table 1 here.

Most of the nurses worked in a ward equipped with a room for seclusion (78.9%). Most of the time, these rooms are furnished with a mattress or with soft furniture. A bed for restraint can be available in the ward and can be moved to the room for seclusion purposes. A little over half of the nurses (55.1%) had a restraint room in their wards. A restraint room is a room where a bed for restraint is ready for use. The most common way to enforce a deprivation of liberty was a restriction on leaving the ward **(table 2).** Over 65% of nurses used such restrictions at least weekly. Around half (51.9%) of the nurses secluded patients at least monthly, and about three quarters (74.1 %) of the nurses restrained patients on a less than monthly basis (rarely).

Insert table 2 here.

Workplace culture

Nurses described their workplace culture in slightly positive terms **(table 3)**. Nurses only occasionally felt stress (mean=2.56, SD=0.55), and the most stressful matter was workload (mean=3.49, SD=1.00). Nurses were fairly satisfied with their job (mean=4.75, SD=0.66), and ranked personal (mean=5.16, SD=0.72) and professional (mean=5.01, SD=0.78) satisfaction most highly. Nurses felt slightly positive about their practice environment (mean=4.42, SD=0.81). Issues regarding nurse management (mean=4.88, SD=0.84) and an intention to leave (mean=4.88, SD=1.83) received high values, meaning that nurse management was appreciated and that nurses did not want to leave their workplace.

Insert table 3 here.

Some background variables were significantly associated with workplace culture (**table 4, 5 and 6**), although gender or job title were not seen to have any association. The length of time nurses had worked in their present hospital had significant associations with reported conflicts with other nurses, satisfaction with training, the overall practice environment, and perceptions of organizational commitment, nurse management and empowerment. Also, a nurse's age, working in shifts, their experience in nursing and the frequency they were called upon to use restraint/restriction had several significant associations with workplace culture. There were also significant associations between the use of restraint/restriction and overall satisfaction, especially professional satisfaction and nurses' satisfaction with pay and prospects. Further, the restriction frequency had a significant association with the practise environment and to nurses' intention to leave.

Insert tables 4, 5 and 6 here.

Discussion

Nurses described their workplace culture in slightly positive terms. A positive workplace culture has been indicated as something that might increase the quality of care (3).

The stress score was relatively low among nurses in this study, although similar results have previously been seen in psychiatric care (19). There may be some issues that could be associated to these kind of results. In psychiatric care the staff on the ward might have considerable contact with their colleagues, and derived help and a sense of value for their work from them. It may be more likely that they are not left alone to make difficult decisions and clear guidelines (for example guidelines on legal issues) help them. Nurses who work on psychiatric wards may usually be organized to work in teams or pairs than their colleagues in outpatient care and so receive support from others.

In this research, nurses were satisfied with their work on both personal and professional levels. Previous research has shown that nurses who are satisfied with their work are more like to stay in their profession and remain working in their present hospital (3). However, previous research also shows that psychiatric nursing is an unpopular choice among young nurses (30), and this presents challenges to leadership, especially in the future when the shortage of nurses is likely to become worse. Managers need to recruit nurses and also retain them in the workplace, and as such, we have considered organizational characteristics as key factors.

Nurses felt more positively than negatively towards their practice environment. They were committed to the organization in that they wanted to work in their present hospital, and the findings were similar to those of a previous study where psychiatric nurses also held a slightly positive view of their practice environment (8). Nurses were also satisfied with their management. The duration of work in the nurses' present hospital had many significant associations with the practice environment. It seems that the longer nurses' stay at a certain hospital, the more positively they see their practice environment and are more committed to the organization.

In this research, restrictions were commonly used and had more significant associations with workplace culture than coercive measures. The Mental Health Act (1116/1990) in Finland and other regulations, mostly national and organizational give nurses and other health care professionals' clear guidelines on when to use seclusion, and perhaps such guidance helps to reduce stress and uncertainty at the workplace. However, some international guidance also exists (e.g. 31).

Limitations

There are some limitations to consider before drawing conclusions from the data in this study. Firstly, the study design reflects a moment in time in this descriptive cross-sectional study. Secondly, the response rate was 18.9 % which is relatively low. Possible reasons for the low response rate were that it was a web-based survey and that organizational changes were going on at

the same time as the survey being conducted. Lastly, in the web-based survey, due to some technical issues, one item was missing from the total sum of the working environment. One missing item could have affected the total sum of stress. But the overall effect would be small because it is only one item missing from total of 36 items. However, the instrument used in this research has been previously found to be reliable and to offer a valid measurement for workplace culture. In these studies the instrument homogeneity has been good, with a Cronbach's alpha range of 0.57–0.92 (22). In this study, the Cronbach's alpha range was from 0.58–0.95 (**table 3**).

Conclusions

A positive workplace culture is associated with quality of care, and also with how long nurses are retained in their facilities and in nursing overall. Nurses who had worked longer in the nursing profession, and who are older tend to be more satisfied with their workplace culture. This poses challenges as to how young nurses may be attracted to work in psychiatric nursing, and also how they may be supported once in place. Young and/or newly graduated nurses need support and mentoring.

Psychiatric nursing has developed over recent decades. The issues of restrictions and coercive measures have gained more attention and efforts have been made to reduce the use of coercive measures, which from a perspective of workplace culture is important and needs to be continued. This is underlined in the findings of this study which showed that restrictions had significant associations with workplace culture, and that nurses who used restrictive measures were more often less satisfied with their workplace culture.

What the research adds to existing knowledge

Nurses described their workplace culture in slightly positive ways. Demographic variables such as the nurses' age, length of time in nursing, time at their present hospital, working shifts, and their use of patient restriction were more frequently associated with their perceived workplace culture.

Implications for mental health nursing

Young and/or newly graduated nurses especially need support from managers to be committed to their work place. Young and/or newly graduated nurses have lower overall satisfaction and their commitment to the organization is lower. The use of restraint had significant associations with workplace culture, and those nurses who used restrictive methods more often, were less satisfied with their workplace culture in psychiatric nursing. These issues should be recognised in nursing practise, especially on behalf of the psychiatric/ mental health nursing leaderships.

Declaration of interest

The authors report no conflicts of interest and retain sole responsibility for the content and writing of this paper.

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Table 1. Demographic factors of respondents (n=109)

Factors	%
Age (n=98)	
22-33 years	34.7
34-43 years	20.4
44-69 years	44.9
Gender (n=109)	
Female	62.4
Male	37.6
Marital status (n=106)	
Cohabitation/marriage	73.6
Other	26.4
Education (n=107)	
Vocational school	35.5
Polytechnic	64.5
Job title (n=107)	
Licenced or mental health nurse	24.3
Registered nurse	75.7
Basis of employment (n=108)	
Permanent	74.1
Temporary	25.9
Working-time (n=109)	
Full-time	97.2
Part-time	2.8
Working in shifts (n=109)	
Three shift work	75.2
Other	24.8
Self-government with shifts (n=108)	
No	55.6
Yes	44.4
Experience in nursing (n=107)	
<1-9 years	34.6
10-19 years	26.2
20-40 years	39.2
Working in this hospital (n=107)	
<1-9 years	44.9
10-14 years	17.8
15-37 years	37.4
Working in this ward (n=105)	
<1-4 years	48.6
5-9 years	16.2
10-31 years	35.2
Experience in outpatient care (n=107)	
No	74.8
Yes	25.2

Table 2. Deprivation of liberty

	Rarely(1) n(%)	Monthly(2) n(%)	Weekly(3) n(%)	Daily(4) n(%)
Restrictions:				
Confiscation of property (n=109)	45 (41.3)	33 (30.3)	21 (19.3)	10 (9.2)
Restrictions of communication (n=109)	55 (50.5)	40 (36.7)	10 (9.2)	4 (3.7)
Restrictions on leaving the ward (n=109)	19 (17.4)	19 (17.4)	22 (20.2)	49 (45.0)
Coercive measures:				
Rooming-in (n=108)	56 (51.9)	34 (31.5)	4 (3.7)	14 (13.0)
Physical adherence (n=109)	63 (57.8)	33 (30.3)	9 (8.3)	4 (3.7)
Seclusion (n=108)	52 (48.1)	37 (34.3)	17 (15.7)	2 (1.9)
Restraint (n=108)	80 (74.1)	16 (14.8)	6 (5.6)	6 (5.6)
Forced medication (n=107)	49 (45.8)	37 (34.6)	19 (17.8)	2 (1.9)

Table 3. Constructs of workplace culture

	Items	Mean (SD)	Md	Q_1-Q_3	α
Overall stress	35	2.56 (0.55)	2.57	2.15-2.99	0.90
1. Workload	5	3.49 (1.00)	3.40	2.65-4.20	0.89
2. Inadequate preparations	3	3.21 (0.86)	3.00	2.67-3.67	0.77
3. Lack of communication and support	5	2.85 (0.91)	2.70	2.20-3.40	0.78
4. Uncertainty regarding treatments	4	2.77 (0.90)	2.75	2.00-3.50	0.65
5. Work-social life balance	4	2.32 (0.93)	2.25	1.69-3.00	0.77
6. Lack of staff support	3	2.20 (0.77)	2.00	1.67-2.67	0.72
7. Conflict with other nurses	4	2.08 (0.74)	2.00	1.50-2.50	0.64
8. Career development	4	2.08 (0.81)	2.00	1.25-2.50	0.63
9. Working environment	3	1.98 (0.90)	2.00	1.33-2.33	0.84
Overall satisfaction	18	4.75 (0.66)	4.72	4.39-5.18	0.87
10. Personal satisfaction	5	5.16 (0.72)	5.20	4.80-5.60	0.81
11. Professional satisfaction	5	5.01 (0.78)	5.00	4.60-5.60	0.68
12. Satisfaction with training	3	4.85 (1.16)	5.00	4.00-5.67	0.90
13. Satisfaction with pay and prospects	5	3.98 (0.91)	4.00	3.40-4.70	0.73
Overall practice environment	24	4.42 (0.81)	4.38	4.00-5.00	0.89
14. Nurse management	7	4.88 (0.84)	4.86	4.43-5.43	0.76
15. Intention to leave	3	4.88 (1.83)	5.00	3.33-6.67	0.94
16. Doctor-nurse relationship	3	4.77 (1.38)	5.00	3.67-6.00	0.95
17. Adequate staffing and resources	4	4.04 (1.25)	4.25	3.00-5.00	0.84
18. Organizational commitment	3	3.94 (1.04)	4.00	3.33-4.67	0.82
19. Empowerment	4	3.57 (1.15)	3.50	2.81-4.25	0.58

Table 4.

Demographic variables associated with stress

	Age				Marital status			Education			Working in shifts		
	22-33 years	34-43 years	44-69 years		Cohabitation/ marriage	Other		Vocational school	Polytechnic		Three shift work	Other	
	Mean (SD)	Mean (SD)	Mean (SD)	p^1	Mean (SD)	Mean (SD)	p^3	Mean (SD)	Mean (SD)	p^3	Mean (SD)	Mean (SD)	p^3
Overall stress	2.5 (0.57)	2.6 (0.38)	2.5 (0.59)	0.702	2.5 (0.64)	2.6 (0.51)	0.467	2.4 (0.60)	2.6 (0.51)	0.192	2.6 (0.56)	2.5 (0.54)	0.383
	Md (Q_1, Q_3)	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^2	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^4	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^4	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^4
Workload	3.3 (2.6, 4.0)	3.4 (2.8, 4.1)	3.0 (2.6, 3.6)	0.651	3.0 (2.4, 3.7)	3.4 (2.6, 4.0)	0.232	3.2 (2.6, 4.2)	3.2 (2.6, 3.8)	0.494	3.4 (2.6, 4.0)	2.8 (2.6, 3.7)	0.242
Inadequate preparations	3.0 (2.7, 3,7)	3.3 (2.5, 3.7)	3.0 (2.3, 3.7)	0.547	3.0 (2.3, 3.7)	3.0 (2.7, 3.7)	0.476	3.0 (2.3, 3.7)	3.0 (2.7, 4.0)	0.053	3.0 (2.7, 4.0)	3.0 (2.5, 3.5)	0.564
Lack of communication and support	2.8 (2.4, 3.5)	2.6 (2.2, 3.3)	2.4 (2.0, 3.0)	0.525	2.4 (2.0, 3.3)	2.6 (2.2, 3.2)	0.347	2.4 (2.0, 3.4)	2.6 (2.2, 3.2)	0.183	2.6 (2.0, 3.2)	2.4 (2.0, 3.2)	0.161
Uncertainty regarding treatments	2.5 (2.0, 3.0)	2.5 (2.1, 3.4)	2.6 (2.0, 3.3)	0.527	2.3 (1.9, 2.6)	2.8 (2.0, 3.5)	0.144	2.5 (2.0, 3.3)	2.5 (2.0, 3.3)	0.538	2.5 (2.0, 3.5)	2.8 (2.0, 3.3)	0.729
Work-social life balance	1.9 (1.6, 2.8)	2.5 (1.8, 3.3)	1.8 (1.3, 2.5)	0.184	2.0 (1.5, 2.6)	2.0 (1.5, 2.8)	0.631	2.0 (1.5, 3.0)	2.0 (1.5, 2.5)	0.368	2.0 (1.8, 3.0)	1.8 (1.3, 2.6)	0.034*
Lack of staff support	2.0 (1.3, 2.3)	2.0 (1.3, 2.3)	2.0 (1.9, 2.7)	0.152	2.0 (1.3, 2.5)	2.0 (1.7, 2.7)	0.369	2.0 (1.3, 2.3)	2.0 (1.7, 2.7)	0.341	2.0 (1.3, 2.7)	2.3 (1.8, 3.2)	0.092
Conflict with other nurses	1.8 (1.1, 2.2)	2.0 (1.5, 2.8)	2.0 (1.5, 2.5)	0.178	1.5 (1.0, 2.0)	2.0 (1.6, 2.5)	0.005**	1.8 (1.3, 2.3)	2.0 (1.5, 2.5)	0.303	2.0 (1.5, 2.5)	1.8 (1.5, 2.3)	0.214
Career development	2.3 (1.8, 2.8)	2.3 (1.5, 2.5)	1.8 (1.0, 2.5)	0.014*	2.3 (1.8, 2.5)	2.0 (1.3, 2.5)	0.805	2.0 (1.3, 2.3)	2.3 (1.5, 2.5)	0.012*	2.3 (1.5, 2.5)	2.0 (1.3, 2.5)	0.246
Working environment	1.7 (1.1, 2.3)	2.0 (1.3, 2.2)	1.8 (1.3, 2.3)	0.941	1.7 (1.0, 2.3)	2.0 (1.3, 2.3)	0.519	1.7 (1.0, 2.3)	1.7 (1.3, 2.3)	0.226	1.7 (1.3, 2.3)	2.0 (1.3, 2.5)	0.566

[1]=one-way ANOVA, [2]=Kruskal-Wallis -test, [3]=t-test, [4]=Mann-Whitney U –test, *p < .05, **p < .01, ***p < .001

Table 4. Continued

	Working length in present hospital				Experience in outpatient care			Restrictions used		
	<1-9 years	10-14 years	15-37 years		No	Yes		rare	often	
	Mean (SD)	Mean (SD)	Mean (SD)	p^1	Mean (SD)	Mean (SD)	p^3	Mean (SD)	Mean (SD)	p^3
Overall stress	2.5 (0.56)	2.6 (0.49)	2.6 (0.57)	0.588	2.6 (0.54)	2.4 (0.51)	0.055	2.5 (0.57)	2.6 (0.53)	0.177
	Md (Q_1, Q_3)	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^2	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^4	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^4
Workload	3.2 (2.6, 3.8)	3.2 (2.6, 4.0)	3.4 (2.6, 4.2)	0.493	3.4 (3.0, 4.2)	2.6 (2.4, 3.5)	0.002**	3.2 (2.6, 3.9)	3.2 (2.6, 4.0)	0.741
Inadequate preparations	3.0 (2.3, 3.3)	3.3 (2.7, 4.0)	3.3 (2.7, 3.7)	0.179	3.0 (2.7, 3.7)	3.0 (2.6, 3.4)	0.153	3.0 (2.3, 3.7)	3.0 (2.7, 3.7)	0.668
Lack of communication and support	2.6 (2.0, 3.3)	2.4 (1.8, 2.8)	2.8 (2.2, 3.4)	0.549	2.8 (2.3, 3.6)	2.2 (2.0, 2.9)	0.002**	2.4 (2.0, 3.1)	2.6 (2.2, 3.4)	0.256
Uncertainty regarding treatments	2.5 (2.0, 3.0)	2.3 (2.0, 3.5)	3.0 (2.3, 3.8)	0.089	2.6 (2.1, 3.4)	2.4 (2.0, 3.0)	0.241	2.5 (1.9, 3.1)	3.0 (2.3, 3.5)	0.033*
Work-social life balance	2.0 (1.5, 2.8)	1.8 (1.3, 2.5)	2.3 (1.5, 3.0)	0.977	2.0 (1.8, 2.9)	2.0 (1.5, 2.8)	0.490	1.8 (1.5, 2.5)	2.3 (1.5, 3.0)	0.396
Lack of staff support	2.0 (1.3, 2.7)	2.0 (1.7, 2.3)	2.3 (2.0, 2.7)	0.368	2.0 (1.3, 2.3)	2.2 (2.0, 3.1)	0.194	2.0 (1.3, 2.5)	2.0 (1.7, 2.7)	0.125
Conflict with other nurses	1.8 (1.1, 2.3)	2.0 (1.5, 2.5)	2.0 (1.5, 2.8)	0.020*	2.0 (1.5, 2.5)	1.9 (1.5, 2.3)	0.110	1.8 (1.3, 2.3)	2.0 (1.8, 2.5)	0.146
Career development	2.3 (1.6, 2.6)	2.3 (1.0, 2.5)	2.0 (1.3, 2.5)	0.077	2.3 (1.3, 2.5)	2.1 (1.4, 3.1)	0.606	2.0 (1.4, 2.5)	2.3 (1.3, 2.8)	0.105
Working environment	1.7 (1.2, 2.3)	1.7 (1.3, 2.0)	2.3 (1.3, 2.3)	0.275	2.0 (1.3, 2.3)	1.7 (1.0, 2.4)	0.249	1.7 (1.2, 2.3)	2.0 (1.3, 2.3)	0.108

[1]=one-way ANOVA, [2]=Kruskal-Wallis -test, [3]=t-test, [4]=Mann-Whitney U –test, *p < .05, **p < .01, ***p < .001

Table 5.

Demographic variables associated with satisfaction

	Education			Basis of employment			Experience in nursing				Working length in present hospital			
	Vocational school	Polytechnic		Permanent	Temporary		<1-9 years	10-19 years	20-40 years		<1-9 years	10-14 years	15-37 years	
	Mean (SD)	Mean (SD)	p^3	Mean (SD)	Mean (SD)	p^3	Mean (SD)	Mean (SD)	Mean (SD)	p^1	Mean (SD)	Mean (SD)	Mean (SD)	p^1
Overall satisfaction	5.0 (0.62)	4.6 (0.66)	0.014*	4.8 (0.65)	4.6 (0.65)	0.139	4.6 (0.70)	4.6 (0.56)	5.0 (0.66)	0.060	4.6 (0.70)[a]	4.7 (0.44)[b]	5.0 (0.65)[c]	0.045*
Satisfaction with pay and prospects	4.2 (0.84)	3.9 (0.91)	0.099	4.0 (0.92)	3.8 (0.87)	0.249	3.9 (0.87)	3.9 (0.86)	4.1 (0.98)	0.518	3.9 (0.92)	3.9 (0.88)	4.2 (0.91)	0.214
	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	p^4	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	p^4	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	p^2	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	p^2
Personal satisfaction	5.0 (4.8, 5.8)	5.2 (4.8, 5.6)	0.911	5.0 (4.8, 5.6)	5.4 (5.0, 5.7)	0.822	5.4 (4.9, 5.8)	5.0 (4.4, 5.4)	5.3 (4.8, 5.8)	0.366	5.4 (4.6, 5.7)	5.0 (4.6, 5.6)	5.2 (5.0, 5.8)	0.468
Professional satisfaction	5.2 (4.8, 6.0)	5.0 (4.6, 5.6)	0.105	5.0 (4.6, 5.6)	5.2 (4.5, 5.6)	0.948	5.2 (4.5, 5.6)	5.0 (4.4, 5.6)	5.2 (4.8, 5.7)	0.600	5.2 (4.6, 5.6)	5.0 (4.6, 5.2)	5.2 (4.6, 5.6)	0.520
Satisfaction with training	5.0 (5.0, 6.0)	4.7 (3.3, 5.3)	0.009**	5.0 (4.7, 6.0)	4.0 (3.0, 5.5)	0.001**	4.7 (3.2, 5.3)	5.0 (4.0, 5.0)	5.3 (5.0, 6.0)	0.002**	5.0 (3.3, 5.3)	4.7 (4.0, 5.7)	5.3 (5.0, 6.0)	0.005**

[1]=one-way ANOVA, [2]=Kruskal-Wallis -test, [3]=t-test, [4]=Mann-Whitney U –test, *p < .05, **p < .01, ***p < .001,

a<c p=0.055

Table 5. Continued

	Working in this ward				Restrictions used			Coercive measures used		
	<1-4 years	5-9 years	10-31 years		rare	often		rare	often	
	Mean (SD)	Mean (SD)	Mean (SD)	p^1	Mean (SD)	Mean (SD)	p^3	Mean (SD)	Mean (SD)	p^3
Overall satisfaction	4.6 (0.69)[d]	4.4 (0.50)[e]	5.0 (0.57)[f]	0.004**	4.9 (0.56)	4.6 (0.72)	0.005**	4.8 (0.66)	4.6 (0.64)	0.202
Satisfaction with pay and prospects					4.2 (0.78)	3.8 (0.99)	0.017*	4.1 (0.85)	3.5 (0.93)	0.008**
	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	p^2	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	p^4	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	p^4
Satisfaction with pay and prospects	3.8 (3.2, 4.8)	3.8 (3.5, 3.9)	4.2 (3.8, 4.8)	0.099						
Personal satisfaction	5.2 (4.6, 5.6)	5.0 (4.6, 5.5)	5.4 (4.9, 5.8)	0.360	5.4 (4.9, 5.8)	5.2 (4.6, 5.6)	0.105	5.2 (4.8, 5.6)	5.2 (4.6, 6.0)	0.955
Professional satisfaction	5.1 (4.6, 5.6)	4.7 (4.6, 5.1)	5.2 (4.9, 5.6)	0.029*	5.2 (4.9, 5.6)	5.0 (4.2, 5.4)	0.021*	5.2 (4.8, 5.6)	5.0 (4.4, 5.6)	0.338
Satisfaction with training	4.8 (3.3, 5.3)	5.0 (3.5, 5.1)	5.3 (4.8, 6.0)	0.012*	5.0 (4.7, 6.0)	5.0 (3.3, 5.3)	0.117	5.0 (4.0, 5.7)	4.8 (3.8, 5.8)	0.448

[1]=one-way ANOVA, [2]=Kruskal-Wallis -test, [3]=t-test, [4]=Mann-Whitney U –test, *p < .05, **p < .01, ***p < .001

d<f p=0.024, e<f p=0.010

Table 6.

Demographic variables associated with the practice environment

	Age				Education			Basis of employment			Working in shifts		
	22-33 years	34-43 years	44-69 years		Vocational school	Polytechnic		Permanent	Temporary		Three shift work	Other	
	Mean (SD)	Mean (SD)	Mean (SD)	p^1	Mean (SD)	Mean (SD)	p^3	Mean (SD)	Mean (SD)	p^3	Mean (SD)	Mean (SD)	p^3
Overall practice environment	4.3 (0.93)[a]	4.1 (0.62)[b]	4.7 (0.65)[c]	0.026*	4.6 (0.86)	4.3 (0.77)	0.125	4.5 (0.72)	4.2 (0.93)	0.135	4.3 (0.71)	4.9 (0.90)	0.002**
Organizational commitment	3.6 (1.02)[d]	3.8 (1.00)[e]	4.3 (0.95)[f]	0.017*	4.3 (1.06)	3.7 (1.00)	0.019*	4.0 (0.99)	3.7 (1.10)	0.143	3.8 (0.94)	4.5 (1.14)	0.001**
	Md (Q_1, Q_3)	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^2	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^4	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^4	Md (Q_1, Q_3)	Md (Q_1, Q_3)	p^4
Nurse management	4.9 (4.4, 5.7)	4.6 (4.2, 5.5)	5.1 (4.6, 5.8)	0.419	5.1 (4.4, 5.9)	4.9 (4.4, 5.6)	0.235	4.9 (4.4, 5.6)	5.0 (3.8, 5.7)	0.706	4.9 (4.4, 5.4)	5.7 (4.6, 6.0)	0.005**
Intention to leave	5.3 (3.0, 6.9)	4.0 (2.7, 6.2)	6.0 (4.5, 7.0)	0.038*	5.7 (3.3, 7.0)	5.0 (3.0, 6.7)	0.445	5.7 (3.3, 7.0)	4.0 (2.5, 6.0)	0.002**	5.0 (3.0, 6.7)	6.3 (3.7, 7.0)	0.403
Doctor-nurse relationship	5.0 (4.1, 6.0)	4.3 (3.0, 5.8)	5.7 (5.0, 6.0)	0.166	5.0 (3.7, 6.0)	5.0 (4.0, 6.0)	0.955	5.0 (3.7, 6.0)	5.0 (4.2, 6.0)	0.794	5.0 (3.7, 6.0)	5.7 (4.8, 6.0)	0.153
Adequate staffing and resources	4.8 (2.8, 5.5)	4.0 (2.6, 4.9)	4.4 (3.5, 5.0)	0.637	4.3 (3.5, 5.0)	4.5 (3.0, 5.3)	0.941	4.3 (3.0, 5.0)	4.8 (3.0, 5.3)	0.393	4.3 (3.0, 5.0)	4.5 (3.6, 5.3)	0.392
Empowerment	3.4 (2.5, 4.4)	3.3 (2.5, 4.1)	4.0 (3.5, 4.8)	0.025*	4.0 (3.5, 4.8)	3.5 (2.8, 4.5)	0.053	3.5 (2.5, 4.3)	3.8 (2.9, 4.5)	0.801	3.5 (2.5, 4.3)	4.5 (3.8, 5.1)	<0.001***

[1]=one-way ANOVA, [2]=Kruskal-Wallis -test, [3]=t-test, [4]=Mann-Whitney U –test, *p < .05, **p < .01, ***p < .001

b<c p=0.060, d<f p=0.019

Table 6. Continued

	Self-governance with shifts			Experience in nursing				Working length in present hospital			
	No	Yes		<1-9 years	10-19 years	20-40 years		<1-9 years	10-14 years	15-37 years	
	Mean (SD)	Mean (SD)	p^3	Mean (SD)	Mean (SD)	Mean (SD)	p^1	Mean (SD)	Mean (SD)	Mean (SD)	p^1
Overall practice environment	4.5 (0.84)	4.3 (0.77)	0.403	4.2 (0.94)[g]	4.3 (0.70)[h]	4.7 (0.66)[i]	0.021*				
Organizational commitment	4.0 (1.09)	3.8 (0.98)	0.303	3.6 (1.05)[j]	3.8 (1.03)[k]	4.3 (0.95)[l]	0.007**	3.6 (1.07)[m]	3.7 (0.75)[n]	4.5 (0.95)[o]	<0.001***
	Md (Q₁,Q₃)	Md (Q₁,Q₃)	p^4	Md (Q₁,Q₃)	Md (Q₁,Q₃)	Md (Q₁,Q₃)	p^2	Md (Q₁,Q₃)	Md (Q₁,Q₃)	Md (Q₁,Q₃)	p^2
Overall practice environment								4.1 (3.5, 4.8)	4.3 (4.0, 4.7)	4.8 (4.2, 5.1)	0.027*
Nurse management	5.1 (4.4, 5.6)	4.8 (4.4, 5.5)	0.489	4.9 (3.7, 5.6)	4.9 (4.3, 5.6)	5.1 (4.4, 5.8)	0.530	4.9 (3.8, 5.6)	4.9 (4.1, 5.6)	5.1 (4.4, 5.7)	0.456
Intention to leave	5.0 (3.3, 6.8)	5.8 (3.2, 7.0)	0.705	4.3 (3.0, 6.7)	4.0 (2.7, 6.0)	6.2 (4.9, 7.0)	0.006**	4.0 (2.7, 6.7)	5.7 (2.7, 6.7)	5.7 (4.7, 7.0)	0.025*
Doctor-nurse relationship	5.0 (3.9, 6.0)	5.0 (3.9, 6.0)	0.517	5.0 (4.2, 6.0)	5.0 (3.0, 6.0)	5.3 (4.2, 6.0)	0.749	5.0 (4.0, 6.0)	5.0 (3.0, 5.7)	5.7 (4.3, 6.0)	0.226
Adequate staffing and resources	4.8 (3.4, 5.3)	3.5 (3.0, 4.8)	0.001**	4.8 (2.9, 5.1)	4.5 (2.8, 5.3)	4.3 (3.5, 5.0)	0.498	4.5 (2.8, 5.3)	5.0 (3.3, 5.5)	4.3 (3.5, 5.0)	0.524
Empowerment	3.5 (2.5, 4.3)	4.0 (3.2, 4.5)	0.255	3.5 (2.5, 4.5)	3.3 (2.5, 4.3)	4.0 (3.5, 4.8)	0.033*	3.5 (2.5, 4.5)	3.3 (2.5, 4.0)	4.3 (3.5, 4.8)	0.001**

[1]=one-way ANOVA, [2]=Kruskal-Wallis -test, [3]=t-test, [4]=Mann-Whitney U –test, *p < .05, **p < .01, ***p < .001

g<i p=0.026, j<l p=0.008, m<o p=0.001, n<o p=0.014

Table 6. Continued

	<1-4 years	Working in this ward 5-9 years	10-31 years		No	Experience in outpatient care Yes		rare	Restrictions used often	
	Mean (SD)	Mean (SD)	Mean (SD)	p^1	Mean (SD)	Mean (SD)	p^3	Mean (SD)	Mean (SD)	p^3
Overall practice environment	4.4 (0.86)	4.1 (0.80)	4.7 (0.65)	0.085	4.4 (0.80)	4.5 (0.82)	0.547	4.5 (0.79)	4.4 (0.83)	0.424
Organizational commitment	3.7 (1.08)^q	3.7 (1.02)^r	4.4 (0.90)^s	0.011*	3.9 (1.05)	4.0 (1.08)	0.945	4.0 (1.06)	3.9 (1.02)	0.494
	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	p^2	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	p^4	Md (Q$_1$, Q$_3$)	Md (Q$_1$, Q$_3$)	p^4
Nurse management	4.9 (4.4, 5.6)	4.3 (3.0, 5.1)	5.0 (4.4, 5.6)	0.237	4.9 (4.4, 5.6)	5.0 (4.4, 5.7)	0.754	4.9 (4.4, 5.6)	4.9 (4.3, 5.6)	0.221
Intention to leave	5.5 (3.0, 6.8)	3.2 (2.6, 6.0)	5.7 (4.5, 7.0)	0.632	5.2 (3.0, 6.9)	4.5 (3.3, 7.0)	0.695	6.0 (3.3, 7.0)	4.3 (2.7, 6.7)	0.016*
Doctor-nurse relationship	5.5 (4.6, 6.0)	5.5 (4.0, 6.1)	5.0 (3.0, 6.0)	0.101	5.0 (3.4, 6.0)	5.3 (4.6, 6.0)	0.033*	5.0 (3.7, 6.0)	5.0 (4.0, 6.0)	0.427
Adequate staffing and resources	4.8 (3.0, 5.1)	3.4 (2.4, 4.4)	4.3 (3.4, 5.1)	0.493	4.3 (3.0, 5.0)	4.9 (3.0, 5.6)	0.082	4.3 (3.0, 4.9)	4.8 (3.0, 5.5)	0.217
Empowerment	3.4 (2.0, 4.5)	3.3 (2.5, 3.8)	4.0 (3.5, 4.6)	0.082	3.5 (2.6, 4.4)	4.0 (2.9, 4.5)	0.407	3.5 (2.5, 4.5)	4.0 (3.0, 4.5)	0.555

[1]=one-way ANOVA, [2]=Kruskal-Wallis -test, [3]=t-test, [4]=Mann-Whitney U –test, *p < .05, **p < .01, ***p < .001
q<s p=0.019