

## Health & Research Journal

Vol 5, No 1 (2019)

Volume 5 Issue 1 January-March 2019



Volume 5 issue 1 January 2019

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doi: [10.12681/healthresj.19504](https://doi.org/10.12681/healthresj.19504)

### To cite this article:

Ntatseri, E., Gerogianni, G., Kelesi, M., & Fasoi, G. (2019). Correlation of the working environment with the quality of nursing care. *Health & Research Journal*, 5(1), 30–37. <https://doi.org/10.12681/healthresj.19504>

## RESEARCH ARTICLE

## CORRELATION OF THE WORKING ENVIRONMENT WITH THE QUALITY OF NURSING CARE

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## Abstract

**Introduction:** Improvement of the quality of health care and patients' satisfaction during their hospitalisation depends on many interconnected factors.

**Aim:** This research study intends to investigate four aspects of the nursing environment (autonomy, relationships between doctors and nurses, commanding support and checking working conditions) and the effect they have on nursing care.

**Material and Methods:** The study sample consists of 127 public hospital nurses with a mean age of 45 years (SD = 6.8 years). The questionnaire which was used was based on the revised version of NURSING WORK INDEX-REVISED (NWI-R). Data analysis was performed by the statistical package SPSS 19.0.

**Results:** Of the total sample, 72.4% of participants agree that supervisors support their staff and 60.6% thinks that there is support from nurses for the decisions of their colleagues. Also 10.3% agree that there are enough resources that allow them to spend time with patients, while 65.3% claims that they spend their personal time on different duties. Furthermore, correlation was detected among the aspects of autonomy, relationships between doctors and nurses and "Control over the practice setting". The workplace affects the autonomy's percentages ( $p < 0.020$ ), control of working conditions ( $p < 0.004$ ) and was related to organisational support ( $p < 0.020$ ). According to the above, nurses due to lowest direction's rating have less satisfaction from their research ( $p < 0.004$ ).

**Conclusion:** The nurses' job satisfaction is significantly related to the "autonomy" factor and affects the quality of care provided to the patient. By investing in actions and practices that increase autonomy, improve the control of working conditions as well as the cooperation between nurses and doctors and by increasing organisational support for the employee, there is significant improvement of the quality of nursing care and increased job satisfaction.

**Key words:** Workplace, quality, autonomy, working conditions.

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Cite as: Ntatseri, E., Gerogianni, G., Kelesi, M., Fasoi, G. (2018). Correlation of the working environment with the quality of nursing care. Health and Research Journal, 5(1), ...-... <http://...>

## INTRODUCTION

Nowadays the «healthy» working environment tends to disappear, meaning, the environment that makes employees willing to attribute a hundred percent of their capabilities. The quality of working life is considered as the total satisfaction achieved in the working environment.<sup>1</sup>

The most valuable asset of a business is the people who work there. In order to have a successful business, human dynamic is the most fundamental part as it tends to be the main source of values, unique abilities and competitive advantages<sup>2</sup>. Human resources function better when their contribution is recognised, when they have freedom of initiative (autonomy), when human relationships are good (relationships between doctors and nurses), when they are evaluated, trained and evolved (organisational support). Furthermore, administration must have human resources' command as a priority, so they can reap, reward and develop human resources that are optimal (check of working conditions).<sup>2</sup>

The health sector is really sensitive sector and differs from other working sectors due to the fact that its workpiece is human and his individual health. Despite technological, economic and administrative evolution, human factor plays an important role in the distribution of services on health institutions.

The well-being of health personnel doesn't only mean better and more efficient allocation of resources, but also proper functioning of the organisation. Also, it ensures better, more qualitative services to the patient, which are much needed during his hospitalization.<sup>3</sup> Many researches have dealt with the connection between working conditions and patients' safety, while other researches try to determine whether the health of nurses is related to the patients' safety.<sup>4,5</sup> Health sector in Greece has serious problems due to the lack of staff and specifically due to the lack of nursing staff. This causes difficulty in the execution of nursing duties, professional fatigue and diminished job satisfaction, as they are obliged to face an increased number of patients, due to their financial weakness of visiting an external doctor. The search of the maximum efficiency, which inconsiderably leads to maximum quality, contributed to the reappraisal of health professionals' role. Nursing belongs to the health professions that by upgrading their role, improves efficiency and quality of health services.<sup>3</sup>

## AIM

The purpose of the present research study was the investigation of working environment correlation with the quality of nursing care. In specific, nurses' autonomy levels, relationships between doctors and

nurses, control of working conditions and organisational support, localisation of their positive or negative effect on the quality of nursing care (directions of Revised Nursing Work Index -indicator of nursing work) and their correlation with demographic and labor factors were explored.

## MATERIAL AND METHODS

The studied sample consisted of 127 nurses working in a public hospital of Athens, Greece. Convenience sampling method was used; firstly, all sectors' supervisors were approached and informed for the research. A number of questionnaires was given to each supervisor according to the number of employees and was distributed to them. Individuals that were in a long time leave were excluded. Participants at first signed an information and consent form related to the research. On this form the purpose of the research was included, as well as the process and the strict adherence to anonymity and the results' privacy. In every case, signing the form was obligatory.

The questionnaire which was used in this research is based on the upgraded version of NURSING WORK INDEX-REVISED (NWI-R), it was translated in Greek language and is used for many researches in Greece. The original questionnaire (Nursing Work Index NWI) was formed in 1989 from Kramer and Hafner, after Nurse American Academy's research on the particular characteristics of hospitals, which attract nursing staff for a working position.<sup>6</sup>

Its large extent and some unclear points lead to its evolution in a simpler form, its upgraded version (NWI-R). Nowadays NWI-R is widely used in researches on hospital environment.<sup>7,8</sup>

## STATISTICAL ANALYSIS

Average values (mean) and standard deviations (Standard Deviation=SD) were used to describe quantitative variables. Absolute (N) and relative (%) frequencies were used to describe qualitative variables. Student's t-test was used to compare quantitative variables between two teams. Paired t-test was used to compare ratings in the aspects of «Autonomy», «Control over the practice setting» and «Relationships between nurses and doctors». Pearson's correlation coefficient (r) was used to check the relationship between two quantitative variables. Correlation is considered low when coefficient correlation (r) is between 0,1 and 0,3, moderate when coefficient correlation is between 0,31 and 0,5, and high when coefficient correlation is higher than 0,5. Linear regression analysis using the stepwise procedure was used to find independent factors associated with the different scales from which dependency coefficients (b) and their standard errors (standard errors = SE). Significance levels are twofold and the

statistical significance is set to 0.05. Data analysis was performed by the statistical package SPSS 19.0.

## RESULTS

Average rating of «Autonomy» was 3.07 units (SD=0.62 units), «Control over the practice setting» was 2.96 units (SD=0.62 units), and «Relationships between nurses and doctors» was 3.58 units (SD=0.84 units). The aspect of «Relationships between nurses and doctors» rating was considerably high compared to «Autonomy» and «Control over the practice setting» ( $p<0.001$  for both comparisons), while rating in «Autonomy» was considerably high compared to the aspect of «Control over the practice setting» ( $p=0.007$ ). Therefore, participants were more satisfied with nurses-doctors' relationships, then with autonomy and lastly by «Control over the practice setting». Average rating of «Organisational support» was 3.26 units (SD=0.53 units) with a total score of 2,94 units (SD=0.49 units).

In this research a significant correlation was found between all three aspects, indicating that the higher the autonomy the better the nurse-doctor relationships and the "Control over the practice setting". Moreover, the higher "Control over the practice setting", the better the relationships between nurses and doctors (Table 1).

In this research supervisors and heads had considerably high ratings, meaning they had more autonomy than the nurses (Table 2).

There was no correlation between «Autonomy» and the participants' age and years of service (Table 3).

Only the work place was found to correlate independently with the ratings of «Autonomy». Specifically, nurses had 0,32 units less autonomy compared to their supervisors - heads.

Supervisors and heads had considerably higher ratings, hence more "control over the practice setting" than nurses (Tables 4,5).

Supervisors and heads had considerably higher ratings, hence more organisational support than nurses (Table 6).

Only the work place was found to correlate independently with the ratings of «Organisational support». Hence, nurses had 0, 26 lower ratings, less organisational support than supervisors - heads (Tables 7,8).

Supervisors and heads had remarkably higher ratings, more work satisfaction than nurses (Tables 7,9). Specifically, nurses had 0,31 lower ratings, less work satisfaction than their supervisors - heads (Table 10).

## DISCUSSION

The mean age of participants was 45 years old, as it turned out from the distribution of statistical population of groups (standard deviation

SD=6.8 years). This finding indicates the reduced flow of new staff the last 10 years at least, calculating the years a student needs to complete his undergraduate studies. According to Pouzoukidou et al.,<sup>9</sup> this can cause dysfunctions in the hospital the next years when workers will leave massively, after completion of their service.

Another point which was studied in this research was the comparison of «relationships between nurses and doctors», «autonomy» and «control of working conditions». The first aspect, relationships, had considerably high rating ( $p<0.001$  for both comparisons) and the rating in autonomy was considerably higher than the rating in control of working conditions ( $p=0.007$ ).

Results showed that participants were satisfied from the relationships between them, from their autonomy and control of working conditions. These three dimensions are bi-directional. The more autonomy they had the better the relationships between them. Conversely, when the control of working conditions was functioning properly, the nursing-doctors relationships were better as well.

It was also found that the working environment plays an important role in autonomy, as it was shown that nurses had less autonomy than their chiefs. Workplace is independently related to the rating in organisational support, where nurses had less units (0,26 less) than their heads.

As far as hospital autonomy is concerned, Goula's research<sup>10</sup> showed that Greek nurses, despite their increased workload, have restricted autonomy, which is proved by the reduced rates of intervention in some actions and by the comparison of autonomy to other countries. Specifically, in Australia, according to Rose et al.,<sup>11</sup> nurses were characterised by a higher degree of autonomy in decision-making. According to Charalambous et al.,<sup>12</sup> the lack of autonomy is a factor that affects care decisions. Its lack is pointed out to nursing research and is connected to working dissatisfaction, professional burnout and nurses' intention of leaving their profession.<sup>13-15</sup> Generally autonomy plays an important role in empowerment and professionalism of nurses.<sup>16</sup> However, high autonomy level is paired with higher educational level<sup>17,18</sup> and nursing staff with such qualifications can develop professional autonomy easier than nurses lacking this educational background.<sup>19</sup>

In this research, heads had a higher rating than nurses, on the aspects of control of working conditions and organisational support. It was found out that their position is related to this rating. According to Mpampatsikou et al.,<sup>20</sup> the same characteristics and the role of the heads lead to the conclusion that he should have control of working conditions.

In conclusion, due to lower ratings on the previous three aspects, it is

noticed that nurses had 0,31 units lower rating, meaning less job satisfaction than their heads. According to Pozoukidou et al.,<sup>9</sup> the degree of job satisfaction is one of the most important parts that should concern the administrations, not only organisational but mainly humanitarian. In their research, the calculations of job satisfaction reached 53,8% and dissatisfaction 46,2%. Dissatisfaction is due to a) working conditions, b) non-recognition of their offer, c) work overload and d) salary. On Makri et al.,<sup>21</sup> it seems that recognition of the offer is significant on satisfaction and dissatisfaction levels and stresses the importance of support and encouragement from the supervisors.

According to that, it emerged that relationships, good communication and solidarity between nurses, doctors and heads, have a positive impact on their profession. It seems that the importance of workplace and good human relationships, contributes directly to the performance of employees, but also to their physical and mental health. On the other hand, ageing staff, that is going to retire in the following years, will probably cause a malfunction on the distribution of work and duties. Also, due to reduced resources, logistic or human, nurses are involved in duties different from their expertise, department's staff is insufficient and there is no clear task. There are no equal chances of work evolution, a fact that disappoints and leads to under-performance as far as patient's care is concerned.

In comparison of these four different aspects, it was found out that when nurses have autonomy, better relationships are achieved with all health teams. When there's control of working conditions, relationships between them are good and autonomy is ensured. However, when heads have more autonomy than their nurses, they provide control over the conditions and organisational support. After all, except from ranking, autonomy is gained through years of experience and training.

## CONCLUSIONS - PROPOSALS

This research had a purpose of recognising and correlating the quality in the provision of health services with work and nurse's environment. The quality in the provision of health services is important, when it's about nursing care's quality since it is anthropocentric. It was noticed that nurses provided higher quality of care when they had autonomy and there were good relationships between them and the collaborating doctors, while there was control of working conditions from the leadership of the head nurse and support of the work environment from the senior management of the hospital.

Special emphasis was given in leadership's role since the way of management determines if workers are satisfied by their work and also if they are willing to provide their services to the patients and to the

whole department in general. Autonomy, as a multifaceted practice, is a fundamental part in the nurse's role and it is a characteristic which is directly related to working satisfaction and success in patient's care. The nurses' ability in quick decision making has paramount effect on the outcome of the patient's health course.

Effective administration of human resources in hospitals should be a central issue of health systems, especially in Greece, where there is severe inefficiency and non productivity, as well as lack of available resources. It is suggested that continuous education, evolution and knowledge update to preserve quality of care, is essential in order to achieve a satisfactory level of autonomy. Also, the creation of a legal framework which supports nurses' autonomy and upgrades their role is really important. In conclusion, financial support of hospitals by increasing the number of nursing staff is stressed. Continuous observation of health systems is needed in order to discover what works and what doesn't, what should be improved, while the level of patient's satisfaction is the best forefinger to improve quality of care. In order to create an appropriate model, co-operation between the members of the department, continuous monitoring and evaluation of staff is needed.

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## ANNEX

**Table 1.** Degree of correlation between the scales of «Autonomy» and «Control over the practice setting»

		Autonomy	Control over the practice setting
Control over the practice setting	R	0,69	
	P	<0,001	
Relationships between nurses and doctors	R	0,325	0,329
	P	<0,001	<0,001

**Table 2.** «Autonomy» dimension's correlation with demographic and labor data of the participants

		Autonomy		P Student's t-test
		Μέση τιμή	SD	
Sex	Males	2,86	0,60	0,157
	Females	3,10	0,62	
Educational Level	2 year education	2,96	0,57	0,233
	University	3,11	0,64	
Master of Postgraduate studies	Yes	3,19	0,66	0,348
	No	3,05	0,62	
Work Place	Head-Supervisor	3,33	0,66	<b>0,020</b>
	Nurse	3,01	0,60	

		Autonomy		
Age	R	0,04	P	0,675
Total years of service	R	0,08	P	0,378
Years of work in that department	R	0,00	P	0,980

**Table 3.** «Autonomy» dimension's correlation with age and total service years of participants

		Control over the practice setting		
Age	R	-0,05	P	0,609
Total years of service	R	-0,01	P	0,903
Years of work in that department	R	-0,02	P	0,839

**Table 4.** Correlation of «Control over the practice setting» dimension with age and participants' total years of service

		$\beta^*$	SE**	P
<b>Work place</b>	Head - Supervisor	0,00 <sup>+</sup>		
	Nurse	-0,32	0,11	0,004

\*dependency ratio \*\*standard error factor +indicates a reference category

**Table 5.** Correlation of work place and «Control over the practice setting» dimension

		Organizational support		P Student's t-test
		Μέση τιμή	SD	
<b>Sex</b>	Males	3,19	0,43	0,547
	Females	3,27	0,55	
<b>Educational Level</b>	2 year education	3,20	0,44	0,433
	University	3,29	0,56	
<b>Master of Postgraduate studies</b>	Yes	3,31	0,61	0,703
	No	3,26	0,52	
<b>Work place</b>	Head-Supervisor	3,47	0,49	<b>0,028</b>
	Nurse	3,21	0,53	

**Table 6.** Participants' rating on «Organizational support» dimension with demographic and labor data

		$\beta^*$	SE**	P
<b>Work place</b>	Head - Supervisor	0,00 <sup>+</sup>		
	Nurse	-0,26	0,12	0,028

\*dependency ratio \*\*standard error factor +indicates a reference category



**Table 7.** Work Place correlates to «Organizational support» dimension

		Organizational support		
Age	r	-0,02	P	0,786
Total years of service	r	0,02	P	0,785
Years of work in that department	r	0,01	P	0,911

**Table 8.** Pearson's correlation coefficients of «Organizational support» dimension's rating with age and participants' total years of service.

		$\beta^*$	SE**	P
Work place	Head-Supervisor	0,00 <sup>+</sup>		
	Nurse	-0,32	0,14	0,020

\*dependency ratio \*\*standard error factor +indicates a reference category

**Table 9.** Work place correlation with «Autonomy» dimension

		$\beta^*$	SE**	P
Work place	Head - Supervisor	0,00 <sup>+</sup>		
	Nurse	-0,31	0,11	0,004

\*dependency ratio \*\*standard error factor +indicates a reference category

**Table 10.** Work place and satisfaction

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		<b>0.680</b>
Barlett's Test of Sphericity	Approx.Chi-Square	<b>0.951</b>
	df	<b>21</b>