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Parameters affecting the nursing staff job satisfaction during the COVID-19 pandemic: a study from the region of Thessaly (Greece)

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ABSTRACT

Background: Nursing is a major contributor to patient health outcomes, while job satisfaction in the field of healthcare is a factor that directly influences job performance and the quality of care provided to patients. **Aim:** The aim of this study was to investigate the level of professional satisfaction of the nursing staff in five public hospitals of the region of Thessaly (Greece) during the coronavirus disease 2019 (COVID-19) pandemic. **Methodology:** Data collection was done through an online questionnaire. The data collection was conducted over a period of four months, from May to September 2022, during the COVID-19 pandemic. **Results:** This is a synchronous, descriptive study with a sample of 750 members of the nursing staff. Women constituted 85.6% of the participants, while 42% and 26.5% of the employees were aged 41-50 and 51-65 years, respectively. The majority (66%) of the participants were nurses, 20.7% were nursing assistants, 16.3% held postgraduate qualifications, and 27.7% had served for 19-24 years. Participants experienced a moderate level of overall professional satisfaction. Of the participants, 79.5% had previously tested positive for COVID-19 and almost all (98.1%) had received the vaccine. **Conclusion:** During the COVID-19 pandemic, psychological, social, and physical stressors increased in an already stressful job, such as that of the nursing staff. Facing death, workload, fear, shortage of staff, and exposure to the risk of infection – all have affected job satisfaction. The existence of such dependencies should force the management to implement educational interventions in order to increase awareness in the nursing staff, with the ultimate aim of improving working conditions (that were considered inadequate) in a global public health crisis such as a pandemic.

KEYWORDS

professional satisfaction, nursing staff, COVID-19 pandemic, SARS-CoV-2 virus, Greece

How to cite this article: Gakikou S., Noula M., Kotrotsiou E., Roupa Z.: Parameters affecting the nursing staff job satisfaction during the COVID-19 pandemic: a study from the region of Thessaly (Greece). *Rev. Clin. Pharmacol. Pharmacokinet. Int. Ed.* 38(3): 347-356 (2024).
DOI: [10.61873/YCAX7805](https://doi.org/10.61873/YCAX7805)

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1. INTRODUCTION

The provision of health services is a multifactorial process. Nurses, being at the core of every healthcare system, belong to the most numerous scientific teams in the hospital, because they spend most of their time in care, on a 24-h basis [1]. Job satisfaction within the healthcare sector is an important factor that affects job performance as well as the quality of care provided to patients. It

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has been reported that professional satisfaction imposes a significant financial burden on healthcare systems. It has been shown that a lack of job satisfaction leads to poor performance and reduced quality of nursing care, which are risk factors directly related to patient safety [2,3].

Safe nursing care is shaken when situations such as a pandemic are to be dealt with. Humanity has always had to deal with different pandemics over the years; the ones that had the most unfortunate results, with a loss of large numbers of people were pandemics involving cholera, plague, and influenza [4]. Studies have shown that 60% of the human infectious diseases are usually of zoonotic origin [5,6], while some estimate animals to be responsible for 75% of the human infectious diseases [7]. Regardless of the estimates, it is suggested that most infectious disease pandemics originate from animals [8,9].

It was in China that a new type of pathogenic virus belonging to the group of recognized coronaviruses was discovered, where no one knew the huge impact that this new virus would have worldwide [10,11]. The coronavirus disease 2019 (COVID-19) pandemic [12] affected human functioning in general, as everyone had to adapt to new conditions and constraints, while the pandemic forced a reorganization of the work of health professionals [13]. It was nurses whose lives were affected on both a personal and a professional level, and who were called upon for the first time since the beginning of the pandemic to care for patients infected by the SARS-CoV-2 virus. As there was a high risk of transmission of the virus, the nursing staff were required to perform their professional tasks and activities using protective personal equipment such as masks, aprons, visors, gloves, and protective footwear [14].

The aim of this study was to investigate the level of professional satisfaction of the nursing staff and its relationship with their demographic data, in five public hospitals of the region of Thessaly (in Greece) during the pandemic of COVID-19. We, essentially, aimed at: (i) recording the demographic and professional characteristics of the nurses, (ii) investigating the level of job satisfaction in these hospitals, and (iii) correlating job satisfaction factors with the demographic and occupational characteristics of the nurses participating in this study.

2. METHODOLOGY

2.1. Research design

In this study, the quantitative method was chosen. Moreover, the design of a synchronous descriptive

study with correlations was adopted in order to answer the research questions in a valid and reliable way. Data collection was conducted over a period of four months, from May to September 2022. The health professionals (nurses, nursing assistants, midwives, and health visitors) who participated in the study, worked in the five public hospitals of the region of Thessaly (Greece): the General Hospital of Volos, the University Hospital of Larissa, the General Hospital of Larissa, the General Hospital of Trikala, and the General Hospital of Karditsa).

Approval for the undertaking of this survey was obtained from the scientific boards of all five participating hospitals: (i) for the University Hospital of Larissa, protocol number 24302 (dated 10-Jun-2022), (ii) for the General Hospital of Volos, protocol number 69 (dated 16-Apr-2022), (iii) for the General Hospital of Karditsa, protocol number 16022 (dated 08-Aug-2022), (iv) for the General Hospital of Larissa, protocol number 65 (dated 30-May-2022), and (v) for the General Hospital of Trikala, protocol number 12991 (dated 19-May-2022).

2.2. Data collection process

In this study, convenience sampling was selected. After obtaining the necessary permissions, a web-based questionnaire was distributed; the latter was created with the use of Google Forms and was distributed through a personal e-mail, while some questionnaires were also filled over the phone. This was because the study was conducted during the COVID-19 pandemic, and the ongoing policy of isolation required reduced human contact and the avoidance of the distribution of printed material.

2.3. Research tool

The online survey questionnaire was created in order to answer the research questions; it was accompanied by a letter that included: (i) a short introduction with the title of the survey, (ii) the researcher's details and relevant information for answering the questionnaire; (iii) details about the required participant's consent, (iv) details on the safeguarding of anonymity and personal data of the participants (i.e., that the questionnaires were anonymous, that the responses would be used for academic purposes, and that no individual information, about any work organization or individual would be published except the results of the research), (v) reassurance that full confidentiality would be maintained for all information obtained as part of this research that could lead to the iden-

tification of participants, and (vi) clarification on the voluntary nature of participation.

2.4. Study population

The study population consisted of 750 employees

of public hospitals in the region of Thessaly (Greece). Specifically, 205 employees from the General Hospital of Volos, 209 from the University Hospital of Larissa, 120 from the General Hospital of Larissa, 111 from the General Hospital of Trikala, and 105 from the General Hospital of Karditsa (Table 1).

Table 1. Overview of the employees in public hospitals of the region of Thessaly (Greece) that formed the study's population (n=750).

	Number of employees	Relative frequency
General Hospital of Volos	205	27.3%
University Hospital of Larissa	209	27.9%
General Hospital of Larissa	120	16.0%
General Hospital of Trikala	111	14.8%
General Hospital of Karditsa	105	14.0%

2.5. Instrument of the survey

The electronic survey questionnaire was created in order to answer the research questions. It was divided into two parts. The first part recorded the demographic and occupational details of each participant as well as their COVID-19-related experience through a total of 22 questions; of these, 12 questions explored the demographic and occupational details of the employees, while the remaining 10 questions relate to the COVID-19 pandemic. Three questions explored the general health status of the workers and whether they have had any physical or mental illness. The second part included the Nursing Staff Professional Satisfaction scale created by Gogos and Petsetaki [15], which is known for its excellent validity and reliability, and consists of 34 closed questions.

2.6. Statistical analysis

The data of this study were analyzed using the statistical program SPSS v. 25. Descriptive and inferential statistics were applied in the statistical analysis of this study. In descriptive statistics, the survey data are presented in the form of frequencies and relative frequencies (%). Inferential statistics were applied to find out whether there is a correlation between the demographic and occupational characteristics of the participants, with overall job satisfaction and the factors of these scales. After checking the normality of the data, it was determined that non-parametric tests should be applied: the Mann-Whitney test and the Kruskal-Wallis test. The level of statistical significance was set at 0.05.

3. RESULTS

The demographic characteristics of the study participants are presented in Table 2. The sample of

the study consisted of 750 nurses working in the public hospitals of Thessaly, of which 642 (85.6%) were women and 108 (14.4%) were men. The age of the employees varied as follows: 42% were aged 41-50 years, 26.5% were aged 51-65 years, 17.7% ranged from 31-40 years, and 13.9% belonged to the age group of 21-30 years. As far as their educational level is concerned, 40.3% were graduates from Higher Technological Education Institutions, 20.4% were graduates from Higher Education Institutions, 22.5% were graduates of Vocational Education and Training Institutions, while 16.3% of them had a postgraduate degree and 0.5% had a doctoral degree.

According to the survey, 70.9% of the participants were married, 21.5% were single, 6.3% were divorced, and 1.3% were widowed. Regarding the number of children that each of the participants had, the survey has found that 43.2% of them had two children, 27.2% were without any children, 16.9% had one child, 10.9% had three children, 1.3% had four children, and 0.4% had five children. Finally, as far as the years of service of the participants were concerned, it appeared that 27.7% of them had 19-24 years of service, 22.3% had 25 or more years of service, 21.6% had 1-6 years of service, 19.2% had 13-18 years of service, and 9.2% had 7-12 years of service (Table 2).

Of the study participants, 66% worked as nurses, 20.7% worked as nursing assistants, 5.3% worked as deputy supervisors, 3.5% worked as midwives, 3.2% worked as supervisors, 0.9% worked as health visitors, and 0.4% worked as sector managers (Figure 1) at the time of the survey. Moreover, 76% of the study participants were permanent, 15.9% were support staff, and 8.1% had another employment contract. The working hours of the nurses were as follows: 78.5% were employed on a rotational basis (cyclical hours),

while 21.5% worked in the morning. The recording of the weekends worked per month has revealed that 36.9% of the participants worked three weekends per month, 30.1% worked two weekends per

month, 17.9% did not work during weekends, 8.1% worked four weekends per month, and 6.9% worked one weekend per month (Figure 2).

Table 2. Demographic characteristics of the study participants (n=750).

Parameter	Categories	Nurses	Relative frequency
Sex	Male	108	14.4%
	Female	642	85.6%
Age	21-30 years	104	13.9%
	31-40 years	133	17.7%
	41-50 years	315	42.0%
	51-65 years	198	26.4%
Educational level	Vocational Education and Training Institution graduate	169	22.5%
	Higher Education Institution graduate	153	20.4%
	Higher Technological Education Institution graduate	302	40.3%
	Postgraduate degree	122	16.3%
	Doctorate	4	0.5%
Marital status	Married	532	70.9%
	Single	161	21.5%
	Divorced	47	6.3%
	Widowed	10	1.3%
Number of children	No children	204	27.2%
	One child	127	16.9%
	Two children	324	43.2%
	Three children	82	10.9%
	Four children	10	1.3%
	Five children	3	0.4%
Years of experience	1-6 years	162	21.6%
	7-12 years	69	9.2%
	13-18 years	144	19.2%
	19-24 years	208	27.7%
	25 years or more	167	22.3%

When questioned regarding the night shifts they serve per week, 66.4% replied that they served one to two night shift(s) per week, 28.5% replied that they served zero night shifts per week, and 5.1% replied that they served three to four night shifts per week. In response to the question "Did you work in a COVID-19 department?", 53.3% of the study participants replied that they did not

work in a COVID-19 department, while 46.7% replied that they did.

Table 3 presents the responses of the study participants regarding the COVID-19 pandemic and the vaccination against the virus responsible for it. In the question "Did you test positive for COVID-19?", 596 participants answered "yes" and 154 answered "no". Of those who claimed that

they tested positive for COVID-19, 12 were hospitalized and 584 were put into quarantine. In response to the question “Was anyone in your family positive for COVID-19?”, our survey recorded 637 “yes” and 113 “no”. Those who claimed that someone in their family had tested positive for COVID-19, also clarified that this had led to 45 hospitalizations, 584 quarantine stays, and 8 deaths. In the question “Have you had the COVID-19 vaccine?”,

the answer was “yes” by 736 participants and “no” by only 14 participants. Finally, in response to the question “How many doses of a COVID-19 vaccine have you had?”, the survey recorded that 17 participants had received one dose, 81 had received two doses, 631 had received three doses, and 7 had received four doses. Interestingly, 14 people declared that they did not intend to vaccinate against the virus causing COVID-19.

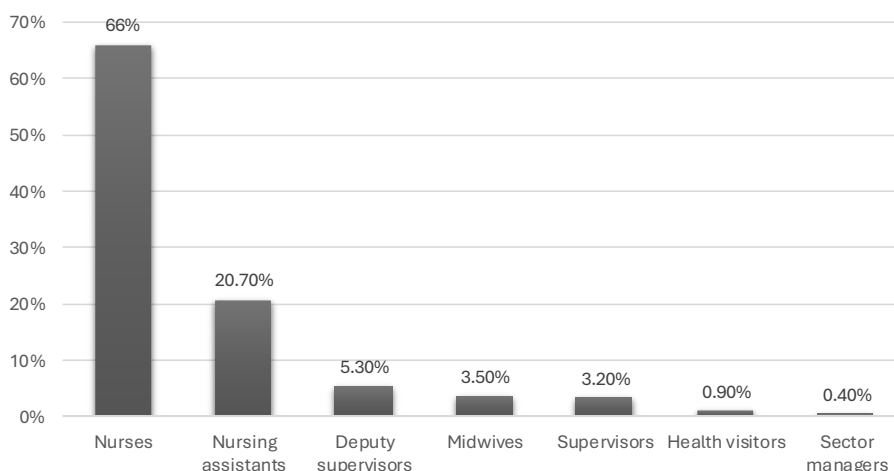


Figure 1. Distribution of the nursing staff (n=750) in public hospitals in the region of Thessaly (Greece) according to their job position.

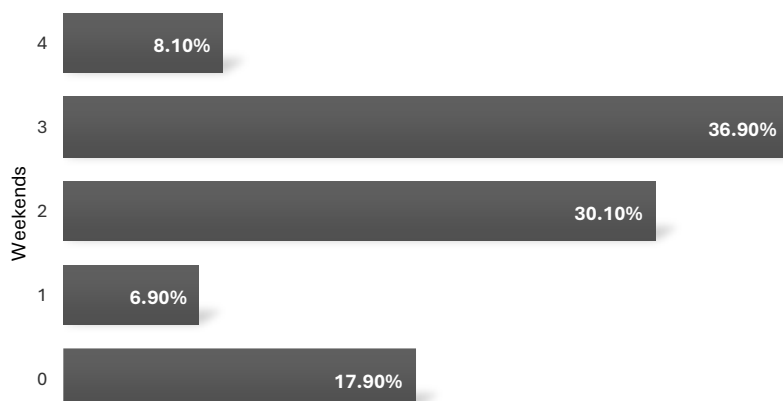


Figure 2. Distribution of weekend-working (as weekends worked per calendar month) among the nursing staff (n=750) of public hospitals in the region of Thessaly (Greece).

Demographic variables such as sex, marital status, age, and years of service were examined in relation to job satisfaction. It was found that men felt increased job satisfaction in terms of working conditions - workload ($p=0.001$), while women exhibited an increased association with reward -

relationship with management ($p=0.014$) and autonomy ($p=0.040$). On the contrary, decreased satisfaction was evident in women, due to increased home duties (as it was natural, compared to men), since the schools were closed during the pandemic period. As age is an

established determinant of job satisfaction, it was no surprise that nurses aged 21-30 years had higher overall job satisfaction ($p=0.004$) in relation to pay ($p=0.000$), social satisfaction ($p=0.008$), and autonomy ($p=0.000$). Our study has also shown that employees who had 1-6 years of service had higher overall job satisfaction, while

those with 7-12 years of service scored higher with regard to the factor of quality of life ($p=0.013$).

Finally, neutral attitudes were recorded in the participants' statements regarding the recognition from family and friends for the contribution of their profession, as well as regarding their preference to practice their profession in another health service.

Table 3. Responses of the study participants (n=750) regarding the COVID-19 pandemic and the vaccination against the virus responsible for it.

Questions		Participants	Relative frequency
Did you test positive for COVID-19?	Yes	596	79.5%
	No	154	20.5%
If you tested positive for COVID-19 ...	You were hospitalized	12	1.6%
	You were put into quarantine	584	77.9%
	TOTAL	596	79.5%
Was anyone in your family positive for COVID-19?	Yes	637	84.9%
	No	113	15.1%
If someone in your family tested positive for COVID-19 ...	They were hospitalized	45	6.0%
	They were put into quarantine	584	77.9%
	They died	8	1.1%
	TOTAL	637	84.9%
Have you had the COVID-19 vaccine?	Yes	736	98.1%
	No	14	1.9%
How many doses of a COVID-19 vaccine have you had?	One dose	17	2.3%
	Two doses	81	10.8%
	Three doses	631	84.1%
	Four doses	7	0.9%
	TOTAL	736	98.1%
Do you intend to have the vaccine?	No	14	1.9%

4. DISCUSSION

Nurses working in the public hospitals of the region of Thessaly (Greece) during the pandemic have experienced a moderate level of overall professional satisfaction. Similar findings have been reported by previous studies [16-18]. However, Savitsky *et al.* [19] have reported moderate / high satisfaction, while in a similar study conducted on physicians at high risk for being infected with COVID-19 [20], a moderate level of overall professional satisfaction was also reported. Maintenance

of satisfaction was one of the important factors and a low level of it may have led to a limitation of the resilience of the health system and, consequently, may have had a negative impact on patient safety [21]. A different finding, however, has been reported for frontline nurses [20], for whom they have concluded that professional satisfaction was high. In another study [22], the levels of professional satisfaction of nurses in different countries has been analyzed: Sweden recorded the smallest decrease, the UK was at the average of the countries, while the largest decrease was reported in Italy. The European countries with the highest lev-

els of mortality also had the largest decrease in the levels of professional satisfaction among nurses [19].

Another parameter for the decrease in nurses' job satisfaction has been found to be the increase in psychosocial risks during the pandemic, through occupational accidents or mental illness [23]. The shortage of nursing staff was also found to further increase the risk of non-professional job satisfaction [24]. Contrary to the present study, previous studies [25,26] have reported a low job satisfaction, while others [24,27,28] have even reported a very low level of job satisfaction, possibly influenced by the stressful nature of the job [23,28]. The moderate level of job satisfaction identified by our study could be due to the fact that the nurses adapted more quickly to the new working conditions.

In Poland, most nurses have indicated that the profession is considered important to society, but with a reduced response rate in terms of attendance, thereby resulting in an insufficient number of employees in relation to the number of patients receiving care [22]. Italy recorded the greatest decrease in job satisfaction among nurses, in the overall assessment of working conditions [22]. In Sweden, however, the same survey recorded the lowest decrease in job satisfaction, which was interestingly linked to a higher level of perception of professional prestige / importance in society [22].

The lack of nursing staff also contributes to professional satisfaction, while the shortage of nurses is a global phenomenon. According to the WHO [29], half of its member countries have reported that in 2017 they had less than three nurses per 1,000 citizens, while during the COVID-19 pandemic, there still was a shortage of nurses [30]. Another study [24] agrees, finding that the problem of nursing staff shortage, although already existing, has become even more serious during the pandemic. With inadequate numbers of staff, the risk of mistakes being made increases, thereby leading to the deterioration of patients' health. A higher patient mortality was observed in nursing homes, where the mortality rate was inversely proportional to the number of nurses per patient serving these nursing homes [31].

The parameter of remuneration also affects the relative dissatisfaction of the employees; due to low remuneration (salary, allowances, increases) during the pandemic, it has been difficult to have financial increases. In other studies, it has been shown that job satisfaction was influenced by salary and job benefits leading to job insecurity [31,32].

In Greek studies, the nursing position, the relationship with patients, and the years of service,

have been identified as the main causes leading to job satisfaction (or not), increase of stress (or not) and, finally, maintaining (or leaving) the job [33,34]. Therefore, the increased workload would have worsened the working conditions and what would have helped would have been to increase the number of workers, so as to enhance the nursing staff job satisfaction during the COVID-19 pandemic [27]. Previous studies [35-40] have confirmed the existence of the positive effect of appropriate working conditions on job satisfaction. Globally, studies have also recorded other factors that influence job satisfaction: work experience, work organization mode, promotions, etc. [41,42]. Similarly to the present study, Shahnazi *et al.* [43] have suggested that job satisfaction can improve the level of self-confidence, communication, psychological distress as well as physical, mental and family / social health in nurses.

Limitations occur in this study, and are mainly related to its implementation. The study period was during the COVID-19 pandemic, but not at the onset of the pandemic, which was a source of bias. Moreover, the respondents were not all permanent, but a large proportion of them were on contract for one or two years; these study participants were not working in these hospitals at the beginning of the pandemic. Additionally, without years of experience, there was a difficulty in comparing and evaluating the situation at that time, which also is a limitation of the study.

Another limitation of the study is the information source bias. This is a self-report survey, which may limit the accuracy of the responses. As the data collection tools used the participants' self-reports as the source of completion, the survey is subjective in nature. One should also keep in mind that the questionnaire was completed during the pandemic, under work pressure, which may have influenced the responses of the nursing staff. Due to the COVID-19 pandemic, the hospitals were also cautious in their participation in the survey; this resulted in a lower participation among the employees.

Finally, the results reflect the conditions in the specific hospitals included in the survey. Therefore, the generalizability of the findings may be affected, since the participants were only employees of public hospitals and not of the private sector. A study that would have included a larger study population from all over the country, would have provided results of greater generalizability.

Overall, our study has revealed that during the COVID-19 pandemic, psychological, social, and physical stressors have increased in an already stressful job, such as that of the nursing staff in public hospitals of Greece. Facing death, work-

load, fear, shortage of staff, and exposure to the risk of infection – all have affected job satisfaction. The existence of such dependencies should force the management to implement educational interventions in order to increase awareness in the nursing staff, with the ultimate aim of improving working conditions (that were considered inadequate) in a global public health crisis such as a pandemic.

5. CONCLUSION

This study provides information regarding the job satisfaction during the COVID-19 pandemic among the nursing staff working in five public hospitals in the region of Thessaly (Greece). The study has found that the COVID-19 pandemic had negatively affected the nurses' job satisfaction. A greater decrease in job satisfaction was found among female nurses and older participants, while the COVID-19 pandemic had added more stress to an already stressful job for nurses, as it increased the (psychological, social, and physical) stressors that directly affect their job satisfaction.

ACKNOWLEDGMENTS

We would like to express our sincere gratitude to our colleagues from all five public hospitals of the region of Thessaly for their valuable participation in this research project.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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