



Research Article/Özgün Araştırma

Nurses' mental health status, work motivation levels and related factors during the pandemic period

Pandemi döneminde hemşirelerin ruh sağlığı durumları, iş motivasyon düzeyleri ve ilişkili faktörler

Ali KAPLAN¹  

¹University of Kayseri, İncesu Ayşe and Saffet Arslan Health Services Vocational School, Department of Medical Services and Techniques, 38560, Kayseri-Turkey

Atf gösterme/Cite this article as: Kaplan A. Nurses' mental health status, work motivation levels and related factors during the pandemic period. *ADYÜ Sağlık Bilimleri Derg.* 2022;8(3):211-220. doi:10.30569.adiyamansaglik.1111315

Abstract

Aim: This study is aimed to examine the mental health status, work motivation levels and related factors of nurses who care for COVID-19 patients during the pandemic period.

Materials and Methods: This study was planned as a descriptive cross-sectional study. Data were collected at a university hospital between October 2021 and January 2022. Personal Information Form developed by the researchers based on the literature, General Health Questionnaire-28, and Nurse Job Motivation Scale were used to collect the data.

Results: More than half of the nurses (56.1%) were in the risk group in terms of mental health. There is a negative significant relationship between the work motivation levels of nurses and their mental health status. In addition, it has been determined that the number of patients affecting the workload of nurses during the pandemic process is related to the mental states and motivations of the nurses.

Conclusion: Strategies should be developed to increase nurses' motivation and to improve their mental health in health institutions that care for COVID-19 cases.

Keywords: COVID-19; Nursing; Motivation; Pandemic; Mental health

Öz

Amaç: Pandemi döneminde COVID-19 hastalarına bakım veren hemşirelerin ruh sağlığı durumlarını, iş motivasyon düzeylerini ve ilişkili faktörleri incelemek amaçlanmıştır.

Gereç ve Yöntem: Bu çalışma, tanımlayıcı türde kesitsel bir araştırma olarak planlanmıştır. Veriler Ekim 2021 ile Ocak 2022 arasında bir üniversite hastanesinde toplandı. Verilerin toplanmasında araştırmacılar tarafından literatüre dayalı olarak geliştirilen Kişisel Bilgi Formu, Genel Sağlık Anketi-28 ve Hemşire İş Motivasyon Ölçeği kullanılmıştır.

Bulgular: Hemşirelerin yarısından fazlası (%56,1) ruh sağlığı açısından riskli gruptadır. Hemşirelerin iş motivasyon düzeyi ile ruh sağlığı durumları arasında negatif yönlü anlamlı bir ilişki vardır. Ayrıca pandemi sürecinde hemşirelerin iş yükünü etkileyen hasta sayısının hemşirelerin ruhsal durumları ve motivasyonları ile ilişkili olduğu belirlenmiştir.

Sonuç: COVID-19 vakalarına bakım veren sağlık kurumlarında hemşirelerin motivasyonunu artıracak ve ruh sağlığı durumlarını iyileştirecek stratejiler geliştirilmelidir.

Anahtar Kelimeler: COVID-19; Hemşirelik; Motivasyon; Pandemi; Ruh sağlığı.

Yazışma Adresi/Address for Correspondence: Ali KAPLAN, University of Kayseri, İncesu Ayşe and Saffet Arslan Health Services Vocational School, Department of Medical Services and Techniques, 38560, Kayseri-Turkey, E-mail: alikaplan@kayseri.edu.tr

Geliş Tarihi/Received:29.04.2022

Kabul Tarihi/Accepted:21.11.2022

Yayın Tarihi/Published online:31.12.2022



Introduction

The spread of the COVID-19 epidemic that emerged in China was extraordinarily rapid and it was declared a pandemic by the World Health Organization (WHO) on March 11, 2020.¹ The intensity of health services provided during pandemics increases.² The COVID-19 pandemic has also placed a heavy burden on the health system, including healthcare workers worldwide.^{3,4} WHO has called for action to prevent the physical and mental problems caused by this burden on healthcare workers.⁴

Outnumbering all other health care professionals, nurses are at the forefront of the health workers fighting against the pandemic.⁵ Nurses are the group providing the most care to complicated COVID-19 cases requiring hospitalization and spending the longest time with the patient.⁶ Giving care during a pandemic is highly stressful.⁷ In particular, the increase in nursing care and the need to adapt to new protocols and constant changes in the management of the disease adversely affected the mental health of nurses.⁸ In addition, increased quarantine of healthcare workers during the epidemic⁹, increased workload due to protective equipment such as gloves, face shields, and gowns¹⁰, providing emergency care under life-threatening conditions¹¹, the replacement of family members due to the absence of a patient companion¹² and the disruption of their own families¹³ are among the conditions that impair mental health of nurses. It has also been determined that nurses have experienced more psychological problems than doctors, and that nurses have read books on mental health and got professional support to overcome these problems.¹⁴⁻¹⁶

Nurses play an integral role in managing epidemic diseases such as COVID-19, and their motivation levels need to be taken into consideration.¹⁷ It is known that nurses' job motivation is of great importance in terms of mental health during the pandemic process.¹⁸ Motivation affects individuals' daily lives, helps them be ready, and changes their behavior.¹⁹ Nurses, who experience the most stress among healthcare workers, have lower job satisfaction and higher intention to leave

the profession.²⁰ The proliferation of factors associated with their intention to leave the job may increase the likelihood of nurses leaving the profession. This, as a result, may pose a risk for the continuity of patient care and health institutions during the pandemic when the pandemic spreads rapidly.⁷ Therefore, nurses' motivation levels and mental health status should be investigated during the pandemic, and professional and social support systems should be increased to improve them.¹⁷

Considering the effects of the physical and mental burden brought on by the COVID-19 epidemic on nurses' mental states and work motivation levels, it is vital to explore and analyze this situation. This study aims to determine the mental health status, motivation levels, and related factors for nurses who care for patients with probable or suspected COVID-19 diagnoses.

Research questions

Do the mental health conditions and work motivation levels of nurses differ from each other considering certain demographic and professional qualities?

Is there a relation between work motivation levels and mental health conditions of the nurses providing care for COVID-19 patients?

Materials and Methods

Type of the study

The study was planned as a descriptive cross-sectional study.

The sample size of the study

The universe of the research consists of 348 nurses providing care for COVID-19 patients in a tertiary university hospital located in a province in the Central Anatolia Region of Turkey. In the study, no sampling method was used, and the whole universe was tried to be reached during the research. The data were collected between October 2021 and January 2022. A questionnaire was sent to all nurses in the population of the study, and a total of 260 (74.71%) valid answers were received. Seven nurses who filled in the data collection forms incompletely were not included in the study, and so the study was completed with 253 nurses. General Health Questionnaire Scale

score average was used in the G*Power program to calculate the power of the research, and the effect size was 1.29 as a result of the calculation. In this direction, the working power was determined as 98% as a result of the post power analysis made by taking effect size: 1.29, n:253 and alpha:0.05. The criteria for inclusion in the research were: actively working at the hospital where the research is conducted at the time of the research, volunteering to participate, and filling out the data collection forms completely.

Data collection tools

Research data were collected using a Personal Information Form, General Health Questionnaire-28, and Nurse Job Motivation Scale.

Personal information form

The Personal Information Form was prepared by the researcher in line with the literature.^{7,9,11} The form consists of 15 questions including socio-demographic (age, gender, education level, marital status, etc.) and professional (working time in the profession, working style, etc.) characteristics of nurses.

General health questionnaire–28 (GHQ-28)

The validity and reliability of this questionnaire, developed by Goldberg, in Turkish language was carried out by Kılıç. GHQ-28 is a self-filled screening test to identify mental health problems in the community and in clinics other than psychiatry. There are 28 items in the scale that investigate whether the individual has a recent complaint, and each item consists of four-choice answers ranging from "less than usual" to "much more than usual." The first two items of the questionnaire are scored as negative and the last two items as positive. Accordingly, the answers given to items a and b are scored as "(0) zero", and the answers given to items c and d are scored as "(1) one". A minimum of 0 and a maximum of 28 points can be obtained from the scale, and the higher the score, the higher the probability of mental illness is. A total score of 4 or less from the scale is considered as "normal in terms of mental health." A score of 5 and above is considered

as a "risk group in terms of mental health." In the study, in which validity and reliability of the scale in Turkish language were conducted, the Cronbach alpha reliability coefficient was 0.94.²¹ In this study, the Cronbach alpha reliability coefficient of the scale was found to be 0.88.

Nurse job motivation scale

The Nurse Job Motivation Scale was developed to evaluate nurses' job motivation in health institutions. The validity and reliability study of the scale was carried out by Engin and Çam in 2016. The scale consists of 25 questions, and each item has three options: "I strongly disagree" (1 point), "I partially agree" (2 points), and "I agree" (3 points). The lowest score obtained from the scale is 25, and the highest score is 75, and as the score increases, work motivation also increases. In the validity and reliability study of the scale, the Cronbach Alpha reliability coefficient was found to be 0.84.²² In this study, Cronbach's alpha coefficient was calculated as 0.95.

Data collection

Before starting data collection, the wards providing care for COVID-19 patients in the hospital where the research is done were identified. The data collection forms were sent to the head nurses of the identified wards online after being formed on Google Forms. Information about the research was given by face-to-face interviews with the clinical head nurses. Then, the link of the study was posted by the clinical head nurses to the online group where the nurses working in the service collectively. Information about the research was added to the online form, and the nurses agreeing to participate in the study ticked the checkbox. The contact information of the researcher was added to the online form, and the questions by the nurses to participate in the research were answered via telephone or e-mail. At the same time, only one answer delivery was permitted per each IP address to ensure reliability.

Data analysis

The data obtained from the research were evaluated in the computer environment in the IBM SPSS Statistics 23.0 (IBM Corp.,

Armonk, New York, USA) statistical package program. Descriptive data are shown as numbers, percentages, and averages. Compliance of numerical data with normal distribution was evaluated with Kolmogorov Smirnov test and Skewness / Kurtosis (+1 and -1). In the comparison of two independent groups, the data with normal distribution were analyzed using the Independent Sample t-test, and the not normally distributed data were analyzed using the Mann Whitney-U test. In the comparison of three or more independent groups, One Way Analysis of Variance was used for normally distributed data, and Kruskal Wallis Test was used for data that did not show normal distribution. When the distribution characteristics of the scale scores were examined, it was found that they showed normal distribution according to the Kolmogorov Smirnov test ($p>0.05$). Pearson Correlation analysis was performed to statistically evaluate the relationship between scale scores, the direction and severity of this relationship. A $p<0.05$ value was considered statistically significant in all comparisons.

Ethics committee approval

Before collecting the research data, permission was obtained from Kayseri University Ethics Committee (04.10.2021-59) and from the hospital where the research would be conducted. Permission to use the scale in the study was obtained via e-mail from the researchers who formed the validity and reliability of the scales in Turkish language used in the research. Information about the study was sent to the nurses via the online form and the nurses who agreed to participate in the study were asked to tick the checkbox. The research was conducted in accordance with the principles of the Declaration of Helsinki.

Results

23.7% of the nurses are between the ages 26-30, 85.0% are female, 69.2% are married, 36.7% are childless, and 54.9% have a bachelor's degree and 28.1% of them smoke or drink alcohol. 10.7% of the nurses stated that they previously experienced a psychological problem, 90.9% said they have never had psychological support, 15.0% said they have lived something negatively affecting their lives

in the last three months while 13.8% said they have experienced something positive in the last three months. Moreover, it was understood that 47.0% of them have worked for 11 or more years, 66.4% work both day and night shifts, 45.5% are responsible from 5 or less patients, 51.8% are happy with working at the pandemic ward and that 59.3% experience effects of their working style in their social lives (Table 1).

GHQ-28 average score was found to be 6.82 ± 5.56 and the Nurse Job Motivation Scale average score was found to be 51.22 ± 12.36 . At the same time, the total score for GHQ-28 was analysed according to breakpoint, and it was detected that 56.1% of the nurses are in the risk group for mental health (Table 2).

The comparison of nurses' average scores for GHQ-28 and Nurse Job Motivation Scale with regard to their demographic and professional characteristics is presented in Table 3. It was determined that the nurses who are married, who previously experienced psychological problems, who previously received psychological support, who faced a negative event that may affect their lives, who are not satisfied with working in the pandemic ward and whose social lives are influenced by the way they work have higher GHQ-28 scores and that this difference is statistically significant ($p<0.05$). On the other hand, it was found that the nurses who are single, who have not experienced an event that may negatively affect their lives in the last three months, who have experienced an event that may positive affect their lives in the last three months and who are satisfied with working in the pandemic ward have a level of motivation that is higher at a statistically significant way ($p<0.05$).

It was determined that the number of patients for which the nurses are responsible has a moderate positive correlation with their GHQ-28 scores ($r=0.598$; $p<0.001$), and a weak negative correlation with their Nurse Job Motivation Scale scores ($r=-0.369$; $p<0.001$). Also, it was confirmed that there is a moderate negative correlation between the GHQ-28 scores and the Nurse Job Motivation Scales scores of the nurses ($r=-0.413$; $p<0.001$) (Table 4).

Table 1. Distribution of nurses' demographic and professional characteristics (n=253).

Characteristics	Number	Percent	Characteristics	Number	Percent
Age			An Event that has Negatively Affected Life in the Last 3 Months		
≤25	54	21.3	Yes	38	15.0
26-30	60	23.7	No	215	85.0
31-35	55	21.7	An Event that had a Positive Impact on Life in the Last 3 Months		
36-40	48	19.1	Yes	35	13.8
≥41	36	14.2	No	218	86.2
Gender			Years of Work Experience		
Female	215	85.0	0-5	91	36.0
Male	38	15.0	6-10	43	17.0
Marital Status			≥11	119	47.0
Married	175	69.2	Way of Working		
Single	78	30.8	Continuous daytime	65	25.7
Number of Children			Perpetual night	20	7.9
0	93	36.7	Both night and day	168	66.4
1	65	25.7	Number of Patients for which Nurses are Responsible		
2	73	28.9	≤5		
≥3	22	8.7	6-10	115	45.5
Education			≥11	90	35.6
Health vocational high school	35	13.8	Working in the Pandemic Service	48	19.0
Associate degree	60	23.8	Satisfied		
Bachelor's degree	139	54.9	Non satisfied	131	51.8
Graduate	19	7.5	Effect of Working Style on Social Life	122	48.2
Smoking or Alcohol Use			Yes		
Yes	71	28.1	No	150	59.3
No	182	71.9		103	40.7
Previous Experience of Psychological Problems					
Yes	27	10.7			
No	226	89.3			
Status of Receiving Psychological Support					
Yes	23	9.1			
No	230	90.9			

Table 2. General Health Questionnaire–28 and Nurse Job Motivation Scale mean scores and alpha values (n=253).

Scales	Number of Items	\bar{X}	SD	Alpha
GHQ-28	28	6.82	5.56	0.88
GHQ-28 (≤4: Normal) n(%): 111 (43.9)				
GHQ-28 (≥5: Risky Group) n(%): 142 (56.1)				
Nurse Job Motivation Scale	25	51.22	12.36	0.95

GHQ: General Health Questionnaire

Discussion

The COVID-19 pandemic has affected the whole world and placed a heavy burden on health systems including the health professionals.²³ In a systematic compilation analysing the studies on the mental health of health professionals during the COVID-19 pandemic, it was stated that the studies done on the topic are limited.²⁴ It is aimed that the findings of this study about the nurses caring the pandemic patients be discussed through up-to-date researches and contribute to the field literature.

One of the most striking findings of the research is that more than half of the nurses (56.1%) are in the risk group in terms of mental health. In further studies on the matter, it was confirmed that more than half of the nurses working during the pandemic period are in the risk group for mental health.^{15,24,25} In a study done before the pandemic period, it was determined that this rate was 43.4% (n=1437) in China, 27.3% (n=870) in England, and 41.2% (n=432) in Türkiye.²⁶⁻²⁸ It is considered that this rate increased due to the heavy work load brought to the nurses in the pandemic process, uncertainty, and the fear of being infected and infecting others.

Table 3. Comparison of the mean scores of the General Health Questionnaire–28 and the Nurse Job Motivation Scale according to the demographic and occupational characteristics of the nurses (n=253).

Characteristics	GHQ-28		Nurse Job Motivation Scale	
	Mean ± SD	Test	Mean ± SD	Test
Age				
≤25	6.42 ± 5.43	KW=0.490 <i>p</i> =0.974	53.11 ± 13.86	F=0.810 <i>p</i> =0.520
26-30	7.58 ± 6.27		52.30 ± 10.94	
31-35	6.67 ± 5.31		50.12 ± 10.68	
36-40	6.64 ± 5.42		50.56 ± 13.02	
≥41	6.61 ± 5.20		49.19 ± 13.78	
Gender				
Female	6.80 ± 5.46	U=-0.669 <i>p</i> =0.503	51.58 ± 12.77	t=1.301 <i>p</i> =0.196
Male	6.94 ± 6.17		49.23 ± 9.65	
Marital Status				
Married	7.29 ± 5.66	U=2.508 <i>p</i> = 0.012	47.64 ± 11.52	t=-7.634 <i>p</i> < 0.001
Single	5.82 ± 5.22		58.83 ± 10.56	
Number of Children				
0	6.92 ± 5.58	KW=2.596 <i>p</i> =0.458	53.52 ± 11.31	F=2.024 <i>p</i> =0.111
1	7.67 ± 6.35		50.21 ± 12.55	
2	6.24 ± 4.83		50.31 ± 12.71	
≥3	5.77 ± 5.19		47.54 ± 14.00	
Education				
Health vocational high school	6.88 ± 5.71	KW=1.533 <i>p</i> =0.675	54.51 ± 14.37	F=1.132 <i>p</i> =0.337
Associate degree	5.66 ± 4.16		50.88 ± 11.92	
Bachelor's degree	7.21 ± 5.98		50.89 ± 12.10	
Graduate	7.47 ± 5.79		48.73 ± 11.50	
Smoking or Alcohol Use				
Yes	7.74 ± 6.11	U=1.345 <i>p</i> =0.099	52.38 ± 12.65	t=0.924 <i>p</i> =0.356
No	6.46 ± 5.30		50.78 ± 12.25	
Previous Experience of Psychological Problems				
Yes	9.51 ± 6.42	t=2.698 <i>p</i> = 0.007	52.48 ± 10.16	t=0.659 <i>p</i> =0.514
No	6.50 ± 5.37		51.07 ± 12.61	
Status of Receiving Psychological Support				
Yes	10.17 ± 7.24	t=3.082 <i>p</i> = 0.002	51.39 ± 12.43	t=0.066 <i>p</i> =0.948
No	6.48 ± 5.26		51.21 ± 12.38	
An Event that has Negatively Affected Life in the Last 3 Months				
Yes	10.18 ± 7.63	U=2.977 <i>p</i> < 0.001	50.38 ± 12.26	t=2.609 <i>p</i> = 0.010
No	6.22 ± 4.89		56.00 ± 11.97	
An Event that had a Positive Impact on Life in the Last 3 Months				
Yes	7.37 ± 6.48	U=-0.342 <i>p</i> =0.732	56.97 ± 12.75	t=3.006 <i>p</i> = 0.003
No	6.73 ± 5.41		50.30 ± 12.07	
Years of Work Experience				
0-5	6.75 ± 5.62	KW=0.068 <i>p</i> =0.966	52.34 ± 12.43	F=0.627 <i>p</i> =0.535
6-10	7.39 ± 6.74		50.06 ± 12.83	
≥11	6.66 ± 5.06		50.79 ± 12.18	
Way of Working				
Continuous daytime	5.86 ± 4.62	KW=1.262 <i>p</i> =0.532	51.93 ± 13.99	F=0.260 <i>p</i> =0.772
Perpetual night	7.65 ± 6.86		52.25 ± 13.17	
Both night and day	7.09 ± 5.71		50.83 ± 11.64	
Working in the Pandemic Service				
Satisfied	5.75 ± 4.35	U=-2.083 <i>p</i> = 0.037	54.16 ± 12.01	t=4.034 <i>p</i> < 0.001
Non satisfied	7.96 ± 6.44		48.07 ± 11.99	
Effect of Working Style on Social Life				
Yes	7.90 ± 6.13	U=3.342 <i>p</i> < 0.001	51.62 ± 11.50	U=0.019 <i>p</i> =0.985
No	5.25 ± 4.14		50.65 ± 13.55	

GHQ: General Health Questionnaire, U: Mann-Whitney U test, t: Independent Sample t-Test, KW: Kruskal Wallis Test, F: One-Way ANOVA

Table 4. The relationship between number of patients for which nurses are responsible, GHQ-28 and nurse job motivation scale mean scores (n=253).

	GHQ-28	Nurse Job Motivation Scale	Number of Patients for which Nurses are Responsible
GHQ-28	-		
Nurse Job Motivation Scale	-0.413 <i>p</i> <0.001	-	
Number of Patients for which Nurses are Responsible	0.598 <i>p</i> <0.001	-0.369 <i>p</i> <0.001	-

GHQ: General Health Questionnaire, r: Pearson correlation analysis, *p*<0.05 significance level

It was determined that the nurses who are married, who previously experienced psychological problems and took psychological support, who are not satisfied with working in the pandemic ward and who think their social lives were influenced by the way they work are in the higher-risk group in terms of mental health. It was similarly found in the literature that the married nurses and the nurses who unwillingly work in the pandemic ward have a worse mental health status.^{29,30} However, in another study it was proven that marital status does not make any difference for nurses' mental health, but that the nurses willingly working in the pandemic wards have better mental health status.³¹ Married nurses were thought to be in the risky group in terms of mental health due to both family responsibilities and the workload that came with the pandemic. In addition, similar to the results of this study, there are studies proving that the mental health of nurses who have decreased social support and who think that they have had psychological problems before, have a negative effect on their mental health.^{26,28} It is an expected result that nurses who evaluate the general health status poorly are in the risk group in terms of mental health. Especially for maintaining good mental health of the nurses working in pandemic wards, the risk factors must be determined, psychological counselling services must be planned and they must be encouraged to take psychological services.

It is necessary to be willing, to internalise it and to make enough efforts so as to conduct a work successfully. It is the motivation level what provides this aspiration.³² For this reason, it is necessary to enhance the work performances of nurses, and to know the risk factors in order to motivate them in accordance with the objectives of the health institutions

during the pandemic period, when they are needed the most.³³ In this study, it was determined that the nurses who are single and satisfied to work in the pandemic ward have a higher level of motivation. Similarly, in other studies on the topic, it was found that the nurses who are married and who willingly work in this ward have higher levels of motivation.^{34,35} However, in another study it was confirmed that the nurses who are not married were assigned more duties in the front lines and experienced more mental health and job motivation related problems compared to that of the married ones.³⁶ In the literature, it is seen that the nurses are concerned about transmitting the virus to their family members.^{13,37} Therefore, it is regarded that married nurses have a lower level of job motivation.

The satisfaction nurses get from their job may affect their mental and physical well-being.³⁸ On the contrary, it is also known that nurses with higher levels of stress have lower levels of job motivation. It can be stated, therefore, that there is a reciprocal correlation between the individuals' mental health and job motivations.²⁰ This study determines that there is a negative significant correlation between the GHQ-28 scores and Nurse Job Motivation Scale scores of the nurses. In other studies, on the topic, it was similarly determined that there is a negative correlation between the job motivations and mental health statuses of the nurses.^{39,40} Thus, nurses' states of mental health can be maintained by using tools positively enhancing the motivation of nurses, who have worked heavily during the pandemic period.

In the study, it was determined that the number of patients they care has a positive significant correlation with their GHQ-28

scores, and a negative significant correlation with the Nurse Job Motivation Scale. This finding can be interpreted as the mental health status of nurses deteriorates and their motivation levels decrease as the number of Covid-19 patients they care for increases. In the study conducted by Zainaro et al., a negative significant correlation was similarly found between the workload caused by exceeding numbers of patients and their job motivation.⁴¹ Likewise, in another study it was determined that there is a significant relationship between the number of patients nurses are responsible for and their mental health conditions.⁴² However, in the study by Baksi and Durmaz Edeer, there was found no significant relationship between the number of patients they care and their mental health.⁴³ During the pandemic period caused by COVID-19, there has been a great increase in the workload of nurses due to the boost in the number of patients.⁸ For this reason, if the nurse-patient number rate can be decreased during the pandemic period, the nurses' mental sanity can be maintained and their job motivation levels can be increased.

Limitations of the study

This study has several limitations. First, it is impossible to generalize the results because the research was carried out in a single center. Second, mental health status and motivation levels are dynamic, and the cross-sectional survey results may only reflect information over a specific period.

Conclusions

More than half of the nurses were in the risk group regarding mental health. It has been determined that the mental health status and motivation levels of the nurses working during the COVID-19 pandemic process differ according to certain individual and professional variables. In addition, it was determined that the increase in the number of patients, which correlated nurses' workload during the pandemic process, negatively correlated nurses' mental health status and motivation levels. It was determined that as the motivation levels of the nurses increased, their mental health problems decreased, or the

motivation levels of the nurses increased when their mental health problems decreased.

During pandemic periods, preventive measures should be taken to positively affect all healthcare professionals' mental health and motivation levels. These preventive measures are of great importance to prevent post-traumatic stress disorder in nurses when the severity of the epidemic decreases. It is thought that reducing nurses' workload and work pressure will normalize their mental health status and increase their motivation. In this study, it is seen that the motivation levels of nurses are correlated with mental health. Therefore, it is recommended that strategies be developed to increase motivation in healthcare institutions that care for COVID-19 cases. In addition, there is a need for more experimental researches that will positively affect nurses' mental health and motivation levels.

Ethics Committee Approval

Approval was obtained from the Ethics Committee of Kayseri University (2021/59), and written permission was obtained from the institution where the study was conducted. The research was conducted in accordance with the principles of the Declaration of Helsinki.

Informed Consent

During the data collection phase, information about the research was conveyed to the nurses in written form, and their consent to participate in the study was obtained.

Author Contributions

Idea, design, collection of resources, analysis and interpretation of results and literature, written and critical: AK.

Acknowledgments

The author would like to thank all participants who participated in this study.

Conflict of Interest

There is no conflict of interest to declare.

Financial Disclosure

There is no person/organization supporting this study financially.

Peer-review

Externally peer-reviewed.

References

- World Health Organization. WHO Director-General's opening remarks at the media briefing on COVID-19. <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>. Published March 2020. Accessed December 6, 2021.
- Preti E, Di Mattei V, Perego G, et al. The psychological impact of epidemic and pandemic outbreaks on healthcare workers: rapid review of the evidence. *Current psychiatry reports*. 2020;22(8):43. <https://doi.org/10.1007/s11920-020-01166-z>
- Armocida B, Formenti B, Ussai S, Palestra F, Missoni E. The Italian health system and the COVID-19 challenge. *The Lancet Public Health*. 2020;5(5):e253. [https://doi.org/10.1016/S2468-2667\(20\)30074-8](https://doi.org/10.1016/S2468-2667(20)30074-8)
- WHO 2020. COVID 19 Public Health Emergency of International Concern (PHEIC) Global Research and Innovation Forum: Towards a Research Roadmap. R&D Blueprint: World Health Organization (2020), pp. 1-7.
- Çevirme A, Kurt A. Covid-19 pandemic and its reflections to nursing profession. *EJRSE*. 2020;7(5):46-52.
- Choi KR, Skrine Jeffers K, Logsdon MC. Nursing and the novel coronavirus: Risks and responsibilities in a global outbreak. *J Adv Nurs*. 2020;15:1-2. doi: 10.1111/jan.14369.
- Graham Y, Fox A, Scott J, Johnson M. How a pandemic affects the mental health of the nursing workforce. *Nurs Times*. 2020;116(8):20-2.
- Lam SK, Kwong EW, Hung MS, Pang SM, Chien WT. A qualitative descriptive study of the contextual factors influencing the practice of emergency nurses in managing emerging infectious diseases. *Int J Qual Stud Health Well-being*. 2019;14(1):1626179. <https://doi.org/10.1080/17482631.2019.1626179>
- Gómez-Durán EL, Martín-Fumadó C, Forero CG. Psychological impact of quarantine on healthcare workers. *Occup Environ Med*. 2020;77(10):666-74. doi: 10.1136/oemed-2020-106587
- Ranney ML, Griffeth V, Jha AK. Critical supply shortages—the need for ventilators and personal protective equipment during the Covid-19 pandemic. *New Engl J Med*. 2020;382(18):e41. doi: 10.1056/NEJMp2006141.
- Mo Y, Deng L, Zhang L, et al. Work stress among Chinese nurses to support Wuhan in fighting against COVID-19 epidemic. *J Nurs Manag*. 2020;28:1002-9. <https://doi.org/10.1111/jonm.13014>
- Maben J, Bridges J. Covid-19: supporting nurses' psychological and mental health. *J Clin Nurs*. 2020;29(15-16):2742-50. <https://doi.org/10.1111/jocn.15307>
- Halcomb E, McInnes S, Williams A, et al. The experiences of primary healthcare nurses during the COVID-19 pandemic in Australia. *Journal of Nursing Scholarship*. 2020;52(5):553-63. <https://doi.org/10.1111/jnu.12589>
- Batra K, Singh TP, Sharma M, Batra R, Schvaneveldt N. Investigating the psychological impact of COVID-19 among healthcare workers: A meta-analysis. *Int J Environ Res Public Health*. 2020;17(23):9096. <https://doi.org/10.3390/ijerph17239096>
- Pappa S, Ntella V, Giannakas T, Giannakoulis VG, Papoutsis E, Katsaounou P. Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. *Brain, Behavior, and Immunity*. 2020;88:901-7. <https://doi.org/10.1016/j.bbi.2020.05.026>
- Kang L, Ma S, Chen M, et al. Impact on mental health and perceptions of psychological care among medical and nursing staff in Wuhan during the 2019 novel coronavirus disease outbreak: A cross-sectional study. *Brain, Behavior, and Immunity*. 2020;87:11-7. <https://doi.org/10.1016/j.bbi.2020.03.028>
- Köse S, Gezginç E, Göktaş S, Murat M. The effectiveness of motivational messages to intensive care unit nurses during the COVID-19 pandemic. *Intensive and Critical Care Nursing*. 2021;103161. <https://doi.org/10.1016/j.iccn.2021.103161>
- Lateef F. Face to face with coronavirus disease 19: Maintaining motivation, psychological safety, and wellness. *Journal of Emergencies, Trauma, and Shock*. 2020;13(2):116-23. doi: 10.4103/JETS.JETS_27_20
- Rathore S, Kumar A, Gautam A. Life satisfaction and life orientation as predictors of psychological well-being. *Int J Indian Psychol*. 2015;3(1):20-7.
- Ulrich C, O'Donnell P, Taylor C, Farrar A, Danis M, Grady C. Ethical climate, ethics stress, and the job satisfaction of nurses and social workers in the United States. *Soc Sci Med*. 2007;65(8):1708-19. <https://doi.org/10.1016/j.socscimed.2007.05.050>
- Kılıç C. Common Methodological Errors in Psychiatric Research. *Turkish Journal of Psychiatry*. 1996;7(1):3-9.
- Engin E, Çam MO. The nurses job motivation scale: validity and reliability. *Journal of Ege University Nursing Faculty*. 2016;32(3):1-13.
- Shen X, Zou X, Zhong X, Yan J, Li L. Psychological stress of ICU nurses in the time of COVID-19. *Crit. Care*. 2020;24(1):200. <https://doi.org/10.1186/s13054-020-02926-2>
- Muller AE, Hafstad EV, Himmels JPV, et al. The mental health impact of the covid-19 pandemic on healthcare workers, and interventions to help them: A rapid systematic review. *Psychiatry Res*. 2020;293:113441. <https://doi.org/10.1016/j.psychres.2020.113441>
- Sampaio F, Sequeira C, Teixeira L. Impact of COVID-19 outbreak on nurses' mental health: A prospective cohort study. *Environmental Research*. 2021;194:110620. <https://doi.org/10.1016/j.envres.2020.110620>
- Gao Y, Pan B, Sun W, Wu H, Wang J, Wang L. Anxiety symptoms among Chinese nurses and the associated factors: a cross sectional study. *BMC Psychiatry*. 2012;12:141. <https://doi.org/10.1186/1471-244X-12-141>
- Mark G, Smith AP. Occupational stress, job characteristics, coping, and the mental health of nurses. *British Journal of Health Psychology*. 2012;17:505-521. <https://doi.org/10.1111/j.2044-8287.2011.02051.x>
- Çolak M, Erol S. General health and physical activity levels of healthcare employees and affecting factors. *Journal of Anatolia Nursing and Health Sciences*. 2021;24(2):139-47. <https://doi.org/10.17049/ataunihem.582280>
- Bahadır-Yılmaz E, Yüksel A. State anxiety levels of nurses providing care to patients with COVID-19 in Turkey. *Perspectives in Psychiatric Care*. 2020;57:1088-1094. <https://doi.org/10.1111/ppc.12661>
- Sampaio F, Sequeira C, Teixeira L. Nurses' mental health during the COVID-19 outbreak: A cross-sectional study. *Journal of Occupational and Environmental Medicine*. 2020;62(10):783-787. <https://doi.org/10.1097/JOM.0000000000001987>
- Hu D, Kong Y, Li W, et al. Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: a large-scale cross-sectional study. *EClinicalMedicine*. 2020;24:100424. <https://doi.org/10.1016/j.eclinm.2020.100424>
- Hakmal H, Karadağ M, Demir C. Investigation of factors affecting the motivation levels of nurses: a study in Gülhane military medical faculty training hospital. *Journal of Anatolia Nursing and Health Sciences*. 2012;15(3):181-187.
- Doğanlı B, Demirci Ç. A Research on Determinant Factors of Motivation among Health Institutions' Staff (Nurses). *Journal of Management and Economics*. 2014;21(1):47-60. <https://doi.org/0.18657/yecbu.49076>
- Kundak Z, Taş HÜ, Keleş A, Eğicioğlu H. Job satisfaction and motivation in nursing profession. *Kocatepe Medical Journal*. 2015;16(1):1-10.
- Bayer N, Gölbaşı Z, Esenkaya E. The Relationship of intrinsic motivation and intrinsic motivation with the attitude of gender roles in nurses. *Ordu University Journal of Nursing Studies*. 2022;5(1):22-31. <https://doi.org/0.38108/ouhcd.930986>
- Alshekaili M, Hassan W, Al Said N, et al. Factors associated with mental health outcomes across healthcare settings in Oman during COVID-19: frontline versus non-frontline healthcare workers. *BMJ open*. 2020;10(10):e042030. <http://dx.doi.org/10.1136/bmjopen-2020-042030>
- Sun N, Wei L, Shi S, et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. *American Journal of Infection Control*. 2020;48(6):592-598. <https://doi.org/10.1016/j.ajic.2020.03.018>

38. Gönültaş T, Aytaç N, Akbaba, M. Research on job satisfaction in nurses working in Cukurova University Balcalı hospital. *Sakarya Med J.* 2018;8(1):20-29.
39. Kim SC, Rankin L, Ferguson J. Nurses' mental health from early COVID-19 pandemic to vaccination. *Journal of Nursing Scholarship.* 2021;00:1-8. <https://doi.org/10.1111/jnu.12760>
40. Saleh MO, Eshah NF, Rayan AH. Empowerment predicting nurses' work motivation and occupational mental health. *SAGE Open Nursing.* 2022;8:23779608221076811. <https://doi.org/10.1177/23779608221076811>.
41. Zainaro MA, Ridwan R, Isnainy UCAS. Motivation and workload of nurses with nurse performance in handling events of corona virus (Covid-19). *Jurnal Aisyah: Jurnal Ilmu Kesehatan.* 2021;6(4):673-680. <https://doi.org/10.30604/jika.v6i4.688>
42. Tatar Yüksel C, Özgür G. The relation between depression symptoms' level and stress coping strategies of nurses. *Journal of Ege University Nursing Faculty.* 2008;24(1):67-82.
43. Baksı A, Durmaz Eder A. Investigation of the Relationship Between Emotional Labor and General Health Status of Intensive Care Nurses. *Journal of Hacettepe University Faculty of Nursing.* 2020;7(2):130-137. <https://doi.org/10.31125/hunhemsire.763157>