Factors contributing to burnout among nurses of stationary and outpatient psychiatric wards during the COVID-19 pandemic

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ABSTRACT

Introduction: Many factors are involved in nurse burnout. The aim of the study was to investigate the factors of burnout in 2 groups of nurses, specifically among those working in psychiatric stationary or outpatient wards during the COVID-19 pandemic.

Material nad methods: The study covered 140 nurses. To assess the impact of factors on professional burnout during the COVID-19 pandemic, an original questionnaire was used assessing sociodemographic conditions, the need of additional medical use, as well as emotional factors.

Results: The differences between stationary and outpatient wards related to discomfort due to the need to use protective clothing (100% vs. 27.78%, $p < 0.00001$), and nuisance and disruptions in interpersonal communication related to the use of protective masks (100% vs. 44.44%, $p < 0.00001$). Nurses from stationary units were the only ones who showed fear of infection (62.30%), difficulties at work (84.43%), fear of being infected and/or family infection (73.77%), feeling tired and depressed (70.49%), increased need for relaxation and rest (81.15%), and insomnia (66.39%). Differences also occurred among those working on 24-hour duties and those working shorter on 12-hour duties. The former were more likely to complain about excess responsibilities (100% vs. 43.75%, $p = 0.00001$), pain (100% vs. 8.75%, $p < 0.00001$). Emotional factors such as fatigue, depression, the need for relaxation, and insomnia correlated with age, work experience, and education ($p < 0.00001$).

Conclusions: A more common incidence of identified factors that may influence burnout was observed in nurses working in stationary psychiatric units and working on longer 24-hour duties. Older, more educated, and more experienced nurses were more likely to exhibit emotional symptoms that may contribute to burnout during the COVID-19 pandemic.

Nurses with a greater number of risk factors should be candidates for preventive procedures consisting of their allocation, psychological training, and care for their working conditions and environment, including physical activity and relaxation.

Key words: psychiatry, burnout, nurse, COVID-19 pandemic.

INTRODUCTION

Burnout affects all medical professions, including nurses [1-7]. One of the studies conducted a systematic review and meta-analysis of studies assessing burnout in nurses during the COVID-19 pandemic in medical departments with different work characteristics. It was found that nurses during the COVID-19 pandemic experience emotional exhaustion in 34.1%, depersonalisation in 12.6%, and lack of a sense of personal fulfilment in 15.2%. The authors of this work emphasised that burnout is a key phenomenon during the COVID-19 pandemic, and all measures should be used to prepare nurses to face the pandemic [4]. Nurse burnout depends on many factors, including the nurse's personal characteristics, such as age, education, and work experience in the profession. Additionally, it is important to assess the nature of the centre where the nurse works, like a psychiatric ward, where the risk factor for burnout is increased. Alqahtani *et al.* investigated the occurrence of burnout syndrome in nurses working in a psychiatric hospital. Using the Maslach Burnout Inventory (MBI), they found that 82.3% had moderate to severe burnout syndrome. In this study, conducted in Saudi Arabia, it was found that the most common factors associated with this syndrome were Arab nationality, single marital status, and being a smoker [3].

The aim of the study is to investigate factors that may influence the burnout of nurses in psychiatric wards during the COVID-19 pandemic.

MATERIAL AND METHODS

The research tool used in the study was an authorial questionnaire containing questions about sociodemographic conditions, the additional medical procedures used, and emotional factors. The use of the authorial questionnaire resulted from the fact that the existing questionnaires did not fully cover the research conducted among nurses in psychiatric wards and at the same time during the COVID-19 pandemic. The survey included, among others, questions requiring a dichotomous answer (No/Yes). The study was conducted at the Clinical Hospital of J. Babiński in Krakow among 140 nurses from psychiatric wards, where 18 surveyed nurses worked on an outpatient ward and 122 on a stationary ward. The study was conducted from September to November 2022 during the COVID-19 pandemic.

Statistical analysis

Quantitative analyses were performed based on the chi-square test of independence with Yates' correction, and the strength of the relationship was tested with Kendall's tau-b coefficient. Quantitative analyses were performed using the *t* test for independent samples. The normality of distributions was tested using the Kolmogorov-Smirnov test, and the compatibility of variances was checked using the Levene test. Statistica 13 was used for all analyses. The significance level was $p = 0.05$.

Table 1. Sociodemographic characteristics of the study group ($N = 140$)

Variables	*n*	%
Sex		
Women	130	92.86
Man	10	7.14
Place of residence		
Urban	90	64.29
Rural	50	35.71
Ward character during COVID-19 pandemic		
Outpatient	18	12.86
Stationary	122	87.14
Work system in COVID-19		
12 hours	80	57.14
24 hours	60	42.86
Education		
College	52	37.14
Master's degree	44	31.43
Specialisation	55	39.29
Postgraduate courses	49	35.00
Additional trainings	34	24.29

RESULTS

The sociodemographic characteristics of the study group are presented in Table 1. The majority of respondents were women, i.e. 92.86% of respondents, and only 7.14% were men. Analysing the place of residence, the research group consisted mainly of people living in the city (64.29%) and, to a lesser extent, in the countryside (35.71%). The majority of respondents worked during COVID-19 in an inpatient department (87.14%). The remaining 12.86% worked in the outpatient ward. The analysis of the research group in terms of work system showed that 57.14% of the respondents worked 12-hour shifts, and the remaining 42.86% worked 24-hour duty. In the study group, 37.14% had a bachelor's degree and 31.43% had a master's degree. 39.29% completed specialisation. 35.0% of those participating in the study completed further training courses and 24.29% completed other trainings.

Nurses in the study group were on average 47.09 years old. Their mean work experience was 23.72 years, and their average education time was 15.70 years (Table 2).

A comparison of responses of outpatient ward nurses and stationary ward nurses to the authorial questionnaire are presented in Table 3.

The feelings of the stationary ward staff differed from those working in the outpatient ward. The feeling of anxiety when working with a person infected with coronavirus was demonstrated by the majority of people working in the stationary ward, while no employee of the outpatient ward had such a feeling (62.30% vs. 0.0%, $p < 0.00001$). Additional difficulties in working with a patient suffering from mental disorders and infected with coronavirus appeared only among people working in the stationary ward; the staff of the outpatient ward did not report additional difficulties at work during the pandemic (84.43% vs. 0.0%, $p < 0.00001$). In both compared wards, mental discomfort and physical difficulties occurred when caring for a psychiatric patient wearing protective clothing, but greater work difficulties were noticeable in inpatient wards (100% vs. 27.78%, $p < 0.00001$).

Table 2. Some personal data of the study group ($N = 140$)

Variables	Mean	Min	Max	SD
Age (years)	47.09	23.00	69.00	8.64
Work experience (years)	23.72	1.00	44.00	10.47
Education (years)	15.70	5.00	24.00	3.19

Table 3. The use of additional medical procedures and emotional factors influencing nurses' burnout during the COVID-19 pandemic, divided into outpatient or stationary wards (N = 140)

Variable	No, % (n)	Yes, % (n)	Statistic
Feeling anxious when working with a person suffering from coronavirus			
Outpatient (n = 18)	100 (18)	0 (0)	χ^2 Yates = 22.08, df = 1, p < 0.00001, tau b = 0.42
Stationary (n = 122)	37.70 (46)	62.30 (76)	
Additional difficulties at work with a patient with mental disorders and infected with coronavirus			
Outpatient (n = 18)	100 (18)	0 (0)	χ^2 Yates = 53.24, df = 1, p < 0.00001, tau b = 0.64
Stationary (n = 122)	15.57 (19)	84.43 (103)	
Mental discomfort and physical difficulty caring for a psychiatric patient and wearing protective clothing			
Outpatient (n = 18)	72.22 (13)	27.78 (18)	χ^2 Yates = 88.74, df = 1, p < 0.00001, tau b = 0.83
Stationary (n = 122)	0 (0)	100 (122)	
Nuisance and disruption of communication with a psychiatric patient wearing a protective mask			
Outpatient (n = 18)	55.56 (10)	44.44 (8)	χ^2 Yates = 64.85, df = 1, p < 0.00001, tau b = 0.58
Stationary (n = 122)	0 (0)	100 (122)	
Considering changing jobs and getting medical treatment while suffering from Covid-19			
Outpatient (n = 18)	100 (18)	0 (0)	χ^2 Yates = 6.01, df = 1, p = 0.14, tau b = 0.23
Stationary (n = 122)	69.42 (84)	27.14 (38)	
The fear of getting yourself and your family infected with COVID-19 resulted in a deterioration of your mental condition			
Outpatient (n = 18)	100 (18)	0 (0)	χ^2 Yates = 34.03, df = 1, p < 0.00001, tau b = 0.52
Stationary (n = 122)	26.23 (32)	73.77 (90)	
Feeling tired and depressed for no apparent reason			
Outpatient (n = 18)	100 (18)	0 (0)	χ^2 Yates = 29.98, df = 1, p < 0.00001, tau b = 0.48
Stationary (n = 122)	29.51 (36)	70.49 (86)	
Increased need for relaxation and rest			
Outpatient (n = 18)	100 (18)	0 (0)	χ^2 Yates = 46.03, df = 1, p < 0.00001, tau b = 0.60
Stationary (n = 122)	18.85 (23)	81.15 (99)	
Insomnia during the COVID-19 pandemic			
Outpatient (n = 18)	100 (18)	0 (0)	χ^2 Yates = 25.70, df = 1, p < 0.00001, tau b = 0.45
Stationary (n = 122)	33.61 (41)	66.39 (81)	

Level of statistical significance for the χ^2 test with Yates' correction

Inconvenience and disruptions in communication with a psychiatric patient wearing a protective mask were a problem in both psychiatric wards. However, in the stationary ward this problem was more troublesome than in the outpatient ward (100% vs. 44.44%, p < 0.00001). Thoughts on changing jobs occurred only among the staff of the stationary ward (27.14% vs. 0.0%, tau b = 0.23). Only nursing staff of stationary units reported fear of themselves and their family getting sick (73.77% vs. 0.0%, p < 0.00001) and feeling tired and depressed (70.49% vs. 0.0%, p < 0.00001). Also, feeling an increased need for relaxation and rest (81.15% vs. 0.0%, p < 0.00001) and insomnia (66.39% vs. 0.0%, p < 0.00001) were noticeable only in employees of stationary wards. Nurses from outpatient wards did not report such feelings.

Additionally, the responses of the respondents in the analysed psychiatric wards regarding the working hours system were divided. One group consisted of nurses on a 12-hour duty, and the other group on a 24-hour duty. The overwhelming majority of nurses working in the 24-h duty system were bothered by overly long duties (100% vs. 43.75%, p = 0.00001) and had abdominal pain and headaches (100% vs. 8.75%, p < 0.00001). However, despite this, all staff from this group would again choose their current profession as a nurse (100% vs. 35%, p < 0.00001) (Table 4).

Feeling tired and depressed, insomnia symptoms, and the need to organise more time for rest were declared by older staff, with longer work experience, and higher education (p < 0.0001) (Table 5).

DISCUSSION

The work determines, on the one hand, the impact of the COVID-19 epidemic on the occurrence of burnout syndrome among nurses, and, on the other hand, the specificity of this phenomenon in the con-

Table 4. The use of additional medical procedures and emotional factors affecting nurses' burnout during the COVID-19 pandemic, divided into 12-hour or 24-hour duty systems (*N* = 140)

Variable	No, % (*n*)	Yes, % (*n*)	Statistic
		Feeling burdened by too many responsibilities	
12 hours (*n* = 80)	56.25 (45)	43.75 (35)	χ^2 Yates = 47.19, df = 1, p = 0.00001, tau b = 0.59
24 hours (*n* = 60)	0 (0)	100 (60)	
		Re-choice of the profession of a nurse	
12 hours (*n* = 80)	65 (52)	35 (28)	χ^2 Yates = 59.29, df = 1, p < 0.00001, tau b = 0.66
24 hours (*n* = 60)	0 (0)	100 (60)	
		Abdominal pain, headaches	
12 hours (*n* = 80)	91.25 (73)	8.75 (7)	χ^2 Yates = 110.77, df = 1, p < 0.00001, tau b = 0.90
24 hours (*n* = 60)	0 (0)	100 (60)	

Level of statistical significance for the χ^2 test with Yates' correction

Table 5. The association between emotional factors (such as feeling tired and depressed, insomnia symptoms, and the need to organise more time for rest) and age, work experience, and education among medical staff (*N* = 140)

Variable	No	Yes	Statistic
		Fatigue and depression	
Age (years)	38.72 (6.66)	52.34 (4.69)	t = –14.17, df = 138, p < 0.001
Work experience (years)	12.84 (7.17)	30.56 (4.97)	t = –17.25, df = 138, p < 0.001
Education (years)	12.81 (2.496)	17.52 (2.017)	t = –12.26, df = 138, p < 0.001
		Need of relaxation and rest	
Age (years)	36.51 (6.15)	51.46 (4.92)	t = –15.16, df = 138, p < 0.001
Work experience (years)	10.06 (5.85)	29.38 (5.57)	t = –18.40, df = 138, p < 0.001
Education (years)	12.18 (2.56)	17.16 (2.10)	t = –11.93, df = 138, p < 0.001
		Insomnia	
Age (years)	39.42 (6.78)	52.67 (4.64)	t = –13.72, df = 138, p < 0.001
Work experience (years)	13.86 (7.63)	30.91 (4.91)	t = –16.07, df = 138, p < 0.001
Education (years)	12.99 (2.46)	17.67 (1.98)	t = –12.47, df = 138, p < 0.001

The level of statistical significance for the Student's t-test for independent samples

ditions of a psychiatric hospital. The main aim of the study is to analyse the factors that influenced the occurrence of burnout in nurses of outpatient and stationary psychiatric wards as well as those working on duties of various lengths during the epidemic. The current study is a cross-sectional work, like most of the works [1, 3, 4, 8, 9]. There are few longitudinal studies [10, 11]. One of them examined nurses' burnout before and during the COVID-19 pandemic. Surprisingly, the author, based on the analysis of 35 papers, concluded that the frequency of burnout among nurses in various departments during the COVID-19 pandemic did not change significantly, and the changes observed were qualitative, not quantitative [10]. Another longitudinal work is that of Teo *et al.* covering a period of 6 months. However, it was performed among the general health care staff. The authors indicated that the remedy for preventing the occurrence of burnout syndrome is teamwork and the feeling of being appreciated. This reduces stress and anxiety and, consequently, the risk of burnout syndrome [11]. Ge *et al.* conducted a review of work from 38 countries on burnout syndrome from 2010 to 2022. In the conclusion of his work, they stated that the amount of burnout syndrome in nurses increased during the COVID-19 pandemic [5]. In the current work, we used the authorial questionnaire, while most studies used the MBI and the Oldenburg Burnout Inventory (OBI). We explain the use of the authorial questionnaire in our study by the fact that the MBI and OBI questionnaires were introduced in a period when there was no COVID-19 pandemic. A good example of the beneficial use of our original questionnaire was the assessment of discomfort due to the need to use protective clothing and the nuisance and disruptions in interpersonal communication associated with wearing protective masks.

According to Meneguin *et al.*, the COVID-19 pandemic, by increasing exposure to infection, caused fear of infection, and increased the number of patient deaths and work-related stress. It also resulted in a higher workload [12]. Wang *et al.* emphasised

that frontline nurses are particularly predisposed to the occurrence of burnout syndrome. Referring to our study, these nurses may include nurses from stationary psychiatric units and those working on 24-hour duties [6]. According to Mokros *et al.*, fear of COVID-19 increased the risk of burnout by increasing depression and insomnia. The author indicated as a remedy the development of the ability to effectively cope with anxiety [13]. In our study, nurses in psychiatric stationary wards often reported feeling insomnia, and being tired and depressed. In the work of Li *et al.* [7], the authors conducted research on a huge sample, 138,279 nurses, during the COVID-19 pandemic in China. They found, based on the results obtained using the MBI and various depression scales of the Self-Rating Anxiety Scale (SAS) and Self-Rating Depression Scale (SDS), that 34% of nursing staff suffer from burnout, 55.5% have depression, and 41.8% feel anxious [7]. In our study, 62.30% of nurses working in psychiatric inpatient units felt fear of infection. A significant qualitative work is that of Gniadek *et al.*, based on direct reports of nurses. According to the authors, risk factors include direct work with a patient with COVID-19, fear of infection, unpredictability of events, sense of helplessness, loss of control, and chronic stress. The authors also discuss the work of nursing teachers during the pandemic when it is impossible to conduct practical classes. They list preventive measures as a remedy for burnout syndrome, i.e. providing personal protective equipment, legal assistance, psychological assistance, free hotel accommodation, additional insurance, and benefits [14]. Chu *et al.* used the Copenhagen Burnout Inventory (CBI) questionnaire on 2019 health care workers, including 1371 nurses, and found that sleep disorders, physical inactivity, and heavy workload are risk factors for burnout syndrome [15]. In our study, excess responsibilities were also visible among psychiatric nurses working on 24-hour duties. Galanis *et al.* found differences in the prevalence of high levels of burnout and low levels of satisfaction among nurses and health care workers. The frequency of burnout syndrome in this study was 91.1% in nurses compared to 79.9% in all health care workers. The low level of satisfaction among nurses was 61% and among health care workers 38.8%. According to these authors, the risk factors for burnout were shift work, and full-time work in public units and in units with staff shortages [4]. Markiewicz *et al.* studied the profiles of psychiatric nurses at risk of burnout syndrome. She stated that the stressors responsible for this syndrome are work overload, experiences of negative emotions, lack of satisfaction, and negative relationships in the team. In addition, a positive sense of responsibility for human life for the employee's assessment is a risk factor. In their study, older nurses with longer work experience and those who more often experienced verbal aggression from patients were at greater risk of burnout syndrome [2]. In our study, older, more educated, and more experienced nursing staff were more likely to exhibit negative emotional symptoms that may contribute to burnout during the COVID-19 pandemic. An interesting observation according to Markiewicz *et al.* was the fact that the non-threatened group did not feel like they were performing their duties perfectly, rarely experienced negative emotions, did not show overload with duties, and were not engaged in work. Meanwhile, the at-risk group experienced overload, became emotionally involved in work, experienced self-stigmatisation by patients, and verbal aggression from them [2]. Zhang *et al.*, in their cross-sectional study conducted 2 months after the outbreak of the coronavirus epidemic, found 6.85% of burnout syndrome among nurses, specifically: emotional exhaustion (25.89%), depersonalisation (18.15%), low personal evaluation (29.76%). This author stated that one of the methods of preventing burnout syndrome is the allocation of a nursing team during the pandemic [9]. Kameg *et al.*, based on research conducted among 151 psychiatric nurses, built a linear regression model including a number of results from the questionnaires used to predict the well-being of nurses during the COVID-19 pandemic. They stated that the factors influencing mental well-being include symptoms of depression, burnout, professional commitment and education [1]. Janeway presented interesting methods of preventing burnout syndrome in nurses, which included, in addition to combating stress and the art of relaxation, yoga exercises, music therapy, and art therapy [16]. Arikan *et al.* investigated the occurrence of fatigue and burnout syndrome in nurses during the COVID-19 pandemic in Turkey. They found high emotional exhaustion in 28.25%, depersonalisation in 11.89%, and low self-esteem in 17.98% [8]. In our study, respondents from psychiatric stationary wards expressed an increased need for relaxation and rest. One of the methods aimed at reducing the risk of staff infections is to divide the psychiatric ward into a section for the treatment of people infected with COVID-19 and for patients whose diagnostic tests were negative, and a section where there is uncertainty about the presence or absence of COVID-19 infection in hospitalised patients. This distinguishes psychiatric wards from other wards and general hospitals, where methods were used to reduce infections by creating the so-called single-name wards where COVID-19 patients were treated [17]. According to Schroeder, the COVID-19 crisis has far-reaching consequences for mental health treatment. The measures taken to prevent the spread of the pandemic have wide-ranging consequences. One such effect is the inability of patients to have direct contact with

their healthcare providers. The author suggests that the so-called Telemental Health using telecommunications technology as elements of telepsychiatry or telepsychology may be useful in professional practice during the pandemic [18].

CONCLUSIONS

The level of factors responsible for professional burnout of nurses employed in stationary wards was higher than that of those working in outpatient wards.

Despite all the adversities encountered during the COVID-19 pandemic, the outpatient wards staff did not intend to give up their profession. However, in stationary wards, the percentage of people considering resignation was approximately 1/3 of the group.

Higher age, higher education, and longer work experience of nurses resulted in an increased incidence of symptoms such as insomnia, fatigue, and depression, and at the same time could contribute to the development of professional burnout among nurses.

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Disclosures

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