Burnout of Nurses in Nursing Homes: To What Extent Age, Education, Length of Service and Length of Work Experience at the Current Workplace Affect the Level of Professional Burnout

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ABSTRACT

We are witnessing very demanding and stressful times in which we live, and an occupation that is particularly exposed to stress and different working conditions is the job of a nurse. Exposing themselves to everyday challenges and stressful situations, nurses reach a stage of great emotional and physical exhaustion, lethargy, dissatisfaction, and poorer work achievements, which we know as burnout. The aim of this paper was to determine whether there is and to what extent professional burnout is present in nurses and technicians working in nursing homes across Slovenia and Croatia. The paper is answering the questions of the extent of the burnout influenced by individual characteristics (age, education, years of service and work experience at the current workplace). The study involved a validated questionnaire "The Oldenburg Burnout Inventory (OLBI)" to measure professional burnout. Surveying of the nurses was conducted online at their home institutions. The results show that all respondents have a medium or high level of professional burnout, while no one has a low level or shows no signs of burnout. In terms of age, the group from 55-65 years of age had the highest relative level of burnout in the age group category. With regard to education, the highest burnout was measured in registered nurses.

1. Introduction

In his scientific work, Freudenberger 1974, refers to the term "burn-out" which is defined in the dictionary as the verb "burn", "fail", "take out" or become exhausted due to the demand for large amounts of energy, strength, or resources. Based on this definition, he founded the term "burnout", which defines a person in the workplace who "burns" for various reasons, thus becoming inoperative in everything he or she intends to do [1].

Burnout is a long-term response to chronic, emotional, and interpersonal stressors at work, and is defined by three dimensions: exhaustion, cynicism, and inefficiency. The way people relate to their work and the difficulties that can arise when disagreements arise have long been recognized as a significant phenomenon of the modern age. The use of the term "combustion" for this phenomenon began to appear regularly in the 1970s in the United States of America, especially among people working in services that involve working with people [2]. As a reliably recognizable stress syndrome at work, the experience of individuals with stress and burnout is placed in the broader organizational context of people's attitudes toward their work. Combustion disrupts both personal and social functioning. The decline in the quality of work in physical and psychological health can cost dearly not only the employee but also others who collaborate with him/her or are in any way related to his/her work [3],[4].

Burnout is defined as a syndrome that can occur in individuals who "work with people" and is characterized by depleted emotional resources, the development of cynicism, dissociation, and decreased perception of working abilities. In burnout, exhaustion precedes cynicism, which precedes inefficiency while workload has a direct correlation to exhaustion itself [5],[6]. Nurses are considered professionals who care and empathize, so individuals, families, and entire communities want nurses to support, heal, and encourage during physical, emotional, and spiritual distress [7]. They do their jobs to the best of their abilities in highly stressful and complex working conditions with people who are seriously ill. Lack of support and resources, patient demands, lack of autonomy and

complexity of work further contribute to the potentially unfavorable environment and the emergence of burnout [8], therefore, in their study, Jiang et al. 2016 offered proposals for programs to alleviate stress and provide assistance to nurses by providing opportunities for training and education of nurses, increasing staffing, improving nurse autonomy, and empowering older nurses who should not work in shifts [9],[10].

2. Objectives of the Study

The objective of the research is to investigate whether there is and to what extent burnout is present in nurses and caregivers working in nursing homes. The research includes nurses and caregivers of different age groups who have different levels of education and aims to determine how much these variables affect burnout. In addition, the impact of the length of service on the current job they perform in a nursing home and its impact on the occurrence of burnout will be examined.

3. Literature Review

Workplace stress seriously affects the quality of nurses' work as well as their mental functioning [11]. The importance of working hours and the connection with the occurrence of occupational burnout in homes has been described by Haller et al. 2020; Han et al. 2015; White et al. 2019 [12]-[14].

A study by Lesly et al. 2015, concluded that millennial nurses (aged 21-33) are more prone to burnout or show less compassion than their "Baby Boomer" counterparts (aged 50-65) or "Generation X" (aged 34-49) [15]. Empathy, support, and education organized by the institution act as protective predictors, while passive coping and neuroticism are phenomena that increase the risk of "burnout and fatigue of compassion" in nurses in the workplace [16].

A study conducted by Rudman and Gustavsson 2011, showed that during the first three years of working life, almost every fifth medical student experiences a high level of burnout at some point [17], while Ohue et al. 2011, concluded that unmarried nurses have a higher tendency to burnout than married nurses [18]. The less tired and saturated health workers are, they are more emotionally engaged, their physical sense of well-being is better, and they are more aware of potential safety hazards given the needs of their patients and families [19].

The analysis of Woodhead et al. 2014 [20], showed that increased job demands as well as feelings of stress due to conscience about the work described by From 2013; Juthberg et al. 2010 create greater professional stress and people experience more emotional exhaustion, more depersonalization and less personal achievement. Support from supervisors, friends, family members, and ensuring satisfactory working conditions is associated with less emotional exhaustion and higher levels of personal achievement [21],[22].

Globally, the root causes of the shortage of nurses include an aging workforce, inadequate financial incentives [23], long working hours and heavy workloads [24]. The concept of burnout is particularly important due to both professional and financial losses related to lost working days and the loss of nurses in the profession. The importance of burnout, but also one's own well-being, must be made aware of and thoroughly understood by nurses themselves, as well as by management in health and social care institutions, and in case of loss, recognized and intervened in time [7].

4. Methods and Results

4.1. Methods

A quantitative method was selected for conducting research of professional burnout of caregivers and nurses of all education levels conducted in nursing homes across the Republic of Slovenia and Croatia. The total number of respondents was (N = 436). Of these, there were women (N =401), men (N =30) and five respondents who refused to declare gender. Looking at the workplace, the questionnaire was completed by caregivers (N =105), nurses with secondary education (N =176), nurses with a bachelor's degree also referred to as registered nurses (N =108), nurses with master's degree (N =17), while 30 questionnaires were completed by "other" occupations such as physiotherapists, social workers, and employees who take care of the users in the home. A three-part questionnaire was used in the research. The first part of the questionnaire consisted of demographic questions followed by questions about job satisfaction and working conditions, while a validated questionnaire – The Oldenburg Burnout Inventory (OLBI) [25] - was used to determine burnout, which measures the two basic dimensions of combustion – exhaustion and alienation. In their work and research, Demerouti and Bakker 2008, define exhaustion as the result of intense affective, cognitive, and physical stress, while alienation as personal distancing from work [25]. The questionnaire was utilized in Google Forms, and the survey was conducted online. The Governments of the Republic of Slovenia and Croatia provided lists of all elderly homes in the Republic of Slovenia and Croatia, to which an e-mail was sent requesting the signing of the attached consent to conduct examinations of nurses of all education levels and caregivers, along with a link to the questionnaire. The directors of the institutions were asked to approve the research and to send a link via Viber, WhatsApp, Messenger, or e-mail to the employees of the institution or the nurse responsible for health care in the institution and requested them to complete the questionnaire. The questionnaire was completed on a voluntary basis, anonymously, and completing and sending it to the examiner served as an informed consent to participate in the research. The collected data were processed by the IBM-SPSS 25 statistical data processing program.

4.2. Results

4.2.1. Descriptive statistic of the total number of respondents who completed the questionnaire

Table 1. Descriptive statistics of results on the burnout questionnaire (N = 436)

Parameter	Statistics
Mean	2.531
Median	2.562
Variance	.068
Std. deviation	.259
Minimum	1.563
Maximum	3.125

Range	1.563
Skewness	-.426
Kurtosis	.547

The analysis of the received data from the questionnaire on professional combustion resulted in the following: arithmetic mean - M = 2.531; confidance interval 95% CI (2.51, 2.56); median = 2.562; standard deviation SD = 0.259; min = 1.563; max = 3.125.

Table 2. Values of testing the normality of the distribution of results on the questionnaire

Parameter	
Kolmogorov-Smirnov	
statistic	.092
df	436
p	.000
Shapiro-Wilk	
statistic	.981
df	436
p	.000

Table 2 shows that the distribution of results on the burnout questionnaire is statistically significantly different from normal p = 0.000

Table 3. Frequency and percentage of respondents in certain clinical categories

Parameter **Burnout**	**Frequency**	**Percent**
Low	1	.2
Medium	297	68.1
High	138	31.7
Total	436	100.0

In the examined sample of clinical categories, only one has a low level of professional burnout, 297 (68.1%) have a medium level, while 138 (31.7%) respondents have a high level. Criteria were taken from the author Delgadillo et al. (2018) who in their work established the clinical levels of burnout.

4.2.2 The relationship between age groups of respondents and the expression of burnout

Table 4. Descriptive statistics of results on the burnout questionnaire by age groups

Parameter	Statistics - Age				
	1. from 18 -24 years	2. from 25 -33 years	3. from 34 -44 years	4. from 45 -54 years	5. from 55 -65 years
Mean	2.488	2.498	2.557	2.513	2.596
Median	2.500	2.500	2.562	2.500	2.625
Variance	.074	.061	.073	.068	.058
Std. deviation	.271	.247	.269	.260	.240
Minimum	1.563	1.938	1.750	1.813	1.875
Maximum	2.938	3.063	3.125	3.125	3.125
Range	1.375	1.125	1.375	1.313	1.250
Skewness	-1.091	-.125	-.674	-.099	-.527
Kurtosis	2.231	-.087	.793	.249	.968

Table 5. Values of testing the normality of the distribution of results on the burnout questionnaire by age groups

	Age	Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistics	df	p	Statistics	df	p
1.	18-24	.171	47	.001	.929	47	.007
2.	25-33	.086	93	.089	.982	93	.239
3.	34-44	.130	105	.000	.964	105	.006
4.	45-54	.080	122	.053	.986	122	.255
5	55-65	.126	69	.008	.963	69	.037

In Table 5, the Kolmogorov-Smirnov test showed that the distributions of the results on the burnout questionnaire in the age groups from 18 to 24, 34 to 44, and 55 to 65 differed significantly from normal.

Table 6. Number and percentage of respondents in certain burnout clinical categories by age groups

Age	Crosstabulation- Burnout in clinical categories				
		low	medium	high	total
(Group 1) from 18 -24 years	Count	1	31	15	47
	% within age	2.1%	66.0%	31.9%	100.0%
	% within burnout in clin.categ.	100%	10.4%	10.9%	10.8%

	% total	0.2%	7.1%	3.4%	10.8%
(Group 2) from 25 -33 years	Count	0	69	24	93
	% within age	**0.0%**	**74.2%**	**25.8%**	**100.0%**
	% within burnout in clin.categ.	0.0%	23.2%	17.4%	21.3%
	% total	0.0%	15.8%	5.5%	21.3%
(Group 3) from 34 -44 years	Count	0	64	41	105
	% within age	**0.0%**	**61.0%**	**39.0%**	**100.0%**
	% within burnout in clin.categ.	0.0%	21.5%	29.7%	24.1%
	% total	0.0%	14.7%	9.4%	24.1%
(Group 4) from 45 -54 years	Count	0	91	31	122
	% within age	**0.0%**	**74.6%**	**25.4%**	**100.0%**
	% within burnout in clin.categ.	0.0%	30.6%	22.5%	28.0%
	% total	0.0%	20.9%	7.1%	28.0%
(Group 5) from 55 -65 years	Count	0	42	27	69
	% within age	**0.0%**	**60.9%**	**39.1%**	**100.0%**
	% within burnout in clin.categ.	0.0%	14.1%	19.6%	15.8%
	% total	0.0%	9.6%	6.2%	15.8%
Total	**Count**	1	297	138	436
	% within age for the whole sample	**0.2%**	**68.1%**	**31.7%**	**100.0%**
	% within burnout in clin.categ.	100.0%	100.0%	100.0%	100.0%
	% total	0.2%	68.1%	31.7%	100.0%

From Table 6 it can be concluded that the relatively highest level of burnout is within the clinical **category** "high" in the age Group 3, present in 29.7% of respondents. However, when observing clinical **groups**, the highest levels of burnout are in age Groups 3 and 5, both having the same percentage of 39% of respondents.

Table 7. Kruskal-Wallis test values when testing differences between groups according to the result on the burnout questionnaire

Parameter	Kruskal-Wallis test	
Age	N	Mean Rank
from 18-24	47	201.52
from 25-33	93	200.02
from 34-44	105	235.29
from 45-54	122	205.56
from 55-65	69	252.30
Total	436	

Table 7a. Kruskal-Wallis test values when testing differences between groups according to the result on the burnout questionnaire

Parameter	Burnout
Kruskal-Wallis H	11.046
df	4
P	.026

According to the Kruskal-Wallis test $p < 0.05$ ($p = 0.026$) which indicates that there is a statistically significant difference in the results on the burnout questionnaire between different age groups.

In order to prove a statistically significant difference in burnout between age groups, a series of Mann-Whitney tests were conducted.

Table 8. Mann-Whitney test

Parameter	Ranks		
Age	N	Mean Rank	Sum of ranks
from 18-24	47	68.21	3206.00
from 34-44	105	80.21	8422.00
Total	152		

Table 8a. Mann-Whitney test

Parameter	Burnout
Mann-Whitney U	2078.000
Wilcoxon W	3206.000
z	-1.559
p	.119

Tables 8 and 8a show that there are no statistically significant differences in burnout levels between age groups 18-24 and 34-44 (p = 0.119) because p > 0.05.

Table 9. Mann-Whitney test

Parameter Age	Ranks N	Mean Rank	Sum of ranks
from 18-24	47	84.07	3951.50
from 45-54	122	85.36	10413.50
Total	169		

Table 9a. Mann-Whitney test

Parameter	Burnout
Mann-Whitney U	2823.500
Wilcoxon W	3951.500
z	-.153
p	.878

Tables 9 and 9a show that there are no statistically significant differences in burnout levels between age groups 18-24 and 45-54 (p = 0.878) because p > 0.05.

Table 10. Mann-Whitney test

Parameter Age	Ranks N	Mean Rank	Sum of ranks
from 25-33	93	91.05	8468.00
from 34-44	105	106.98	11233.00
Total	198		

Table 10a. Mann-Whitney test

Parameter	Burnout
Mann-Whitney U	4097.000
Wilcoxon W	8468.000
z	-1.959
p	.050

Tables 10 and 10a show that the difference in the results on the burnout questionnaire is statistically significant (p = 0.05) p≤ 0.05 in the direction that the age group 34-44 achieves significantly higher results than the group aged 25-33.

Table 11. Mann-Whitney test

Parameter	Ranks		
Age	N	Mean Rank	Sum of ranks
from 25-33	93	73.20	6807.50
from 55-65	69	92.69	6395.50
Total	162		

Table 11a. Mann-Whitney test

Parameter	Burnout
Mann-Whitney U	2436.500
Wilcoxon W	6807.500
z	-2.625
p	.009

Tables 11 and 11a show that the difference in the results on the burnout questionnaire is statistically significant (p = 0.009) p≤ 0.05 in the direction that the age group 55-65 achieves significantly higher results than the group aged 25-33.

Table 12. Mann-Whitney test

Parameter	Ranks		
Age	N	Mean Rank	Sum of ranks
from 34-44	105	85.10	8936.00
from 55-65	69	91.14	6289.00
Total	174		

Table 12a. Mann-Whitney test

Parameter	Burnout
Mann-Whitney U	3371.000
Wilcoxon W	8936.000
z	-.777
p	.437

Tables 12 and 12a show that there are no statistically significant differences in burnout levels between age groups 34-44 and 55-65 because p > 0.05 (p = 0.437).

Table 13. Mann-Whitney test

Parameter	Ranks		
Age	N	Mean Rank	Sum of ranks
from 45-54	122	88.49	10796.00
from 55-65	69	109.28	7540.00
Total	191		

Table 13a. Mann-Whitney test

Parameter	Burnout
Mann-Whitney U	3293.000
Wilcoxon W	10796.000
z	-2.505
p	.012

Tables 13 and 13a show that the difference in the results on the burnout questionnaire is statistically significant (p = 0.012) p≤ 0.05 in the direction that the age group 55-65 achieves significantly higher results than the group aged 45-54. Other combinations of pairs when testing differences in results show that they are not statistically significant.

4.2.3. The relationship between education of respondents and the expression of burnout

Table 14. Number of respondents in certain categories according to the level of education

Burnout		
Ranks		Mean
Education	N	Rank
Caregiver	105	216.99
Nurse.secondary	176	212.47

education		
Registered nurse (Bachelor degree)	108	231.00
Master's degree	17	243.50
Other	30	200.00
Total	436	

Table 15. Values of the Kruskal-Wallis test for testing differences in the results of the burnout questionnaire between groups with different levels of education

Parameter	Education
Kruskal-Wallis H	2.816
df	4
p	.589

Tables 15 shows that there are no statistically significant differences between groups with different levels of education because $p > 0.05$ ($p = 0.589$).

Table 16. Number and percentage of respondents in certain clinical categories by education level

Education	Crosstabulation- Burnout in clinical categories				
		low	medium	high	total
Caregiver	**Count**	0	75	30	105
	% within education	**0.0%**	**71.4%**	**28.6%**	**100.0%**
	% within burnout in clin.categ.	0.0%	25.3%	21.7%	24.1%
	% total	0.0%	17.2%	6.9%	24.1%
Nurse secondary education	**Count**	0	123	53	176
	% within education	**0.0%**	**69.9%**	**30.1%**	**100.0%**
	% within burnout	0.0%	41.4%	38.4%	40.4%

	in clin.categ.				
	% total	0.0%	28.2%	12.2%	40.4%
Registered nurse (Bachelor degree)	Count	0	67	41	108
	% within education	**0.0%**	**62.0%**	**38.0%**	**100.0%**
	% within burnout in clin.categ.	0.0%	22.6%	29.7%	24.8%
	% total	0.0%	15.4%	9.4%	24.8%
Master's degree	Count	0	11	6	17
	% within education	**0.0%**	**64.7%**	**35.3%**	**100.0%**
	% within burnout in clin.categ.	0.0%	3.7%	4.3%	3.9%
	% total	0.0%	2.5%	1.4%	3.9%
Other	Count	1	21	8	30
	% within education	**3.3%**	**70.0%**	**26.7%**	**100.0%**
	% within burnout in clin.categ.	100.0%	7.1%	5.8%	6.9%
	% total	0.2%	4.8%	1.8%	6.9%
Total	Count	1	297	138	436
	% within education for the whole sample	**0.2%**	**68.1%**	**31.7%**	**100.0%**
	% within burnout in clin.categ.	100.0%	100.0%	100.0%	100.0%
	% total	0.2%	68.1%	31.7%	100.0%

Education	Crosstabulation- Burnout in clinical categories				
		low	medium	high	total
Caregiver	**Count**	0	75	30	105
	% within education	**0.0%**	**71.4%**	**28.6%**	**100.0%**
	% within burnout in clin.categ.	0.0%	25.3%	21.7%	24.1%
	% total	0.0%	17.2%	6.9%	24.1%
Nurse secondary education	**Count**	0	123	53	176
	% within education	**0.0%**	**69.9%**	**30.1%**	**100.0%**
	% within burnout in clin.categ.	0.0%	41.4%	38.4%	40.4%
	% total	0.0%	28.2%	12.2%	40.4%
Registered nurse (Bachelor degree)	**Count**	0	67	41	108
	% within education	**0.0%**	**62.0%**	**38.0%**	**100.0%**
	% within burnout in clin.categ.	0.0%	22.6%	29.7%	24.8%
	% total	0.0%	15.4%	9.4%	24.8%
Master's degree	**Count**	0	11	6	17
	% within education	**0.0%**	**64.7%**	**35.3%**	**100.0%**
	% within burnout in clin.categ.	0.0%	3.7%	4.3%	3.9%

		0.0%	2.5%	1.4%	3.9%
	% total				
Other	**Count**	1	21	8	30
	% within education	**3.3%**	**70.0%**	**26.7%**	**100.0%**
	% within burnout in clin.categ.	100.0%	7.1%	5.8%	6.9%
	% total	0.2%	4.8%	1.8%	6.9%
Total	**Count**	1	297	138	436
	% within education for the whole sample	**0.2%**	**68.1%**	**31.7%**	**100.0%**
	% within burnout in clin.categ.	100.0%	100.0%	100.0%	100.0%
	% total	0.2%	68.1%	31.7%	100.0%

Table 16 shows the level of burnout in caregivers and nurses with respect to their education levels. It can be concluded that no caregiver or nurse has a low level of burnout, but they are all in the categories of relatively medium or high level. Furthermore, the relatively highest level of burnout within the clinical category "high" have nurses with secondary education – 38.4% of them. Observing the percentage of respondents according to education levels within their groups, registered nurses have the relatively highest level of burnout – 38% of them.

4.2.4. The relationship between respondents' length of service and the expression of burnout

Table 17. Descriptive statistics of length of service on the burnout questionnaire (N = 436)

Parameter Length of service	Statistics
Mean	17.818
Median	17.000
Variance	140.973
Std. deviation	11.873
Minimum	.25
Maximum	43.00
Range	42.75
Skewness	.242
Kurtosis	-1.176

Table 17 shows that the average length of service of nurses who completed the questionnaire is slightly greater than 17 years, while the lowest is 3 months (0.25 years) and the longest is 43 years.

Table 18. Values of testing the normality of the length of service distribution

Parameter	Length of service
Kolmogorov-Smirnov	
statistic	.108
df	436
p	.000
Shapiro-Wilk	
statistic	.942
df	436
p	.000

Table 18 shows that the distribution of respondents' length of service is statistically significantly different from normal.

Table 19. Spearman's rho test values correlate between the length of service and results on the burnout questionnaire

Parameter	Spearman's rho test	
Lenght of service	**Length of service**	**Burnout**
Length of service	1.000	.091
p		.059
N	436	436

Table 19 shows that the correlation is not statistically significant (p = 0.059), so there is no correlation between length of service and results on the burnout questionnaire.

4.2.5. The relationship between the length of work experience at the current workplace in the nursing home and burnout

Table 20. Descriptive statistics of the length of work experience at the current workplace on the burnout questionnaire (N = 436)

Parameter *Work experience*	Statistics
Mean	9.981
Median	6.000
Variance	94.118

Std. deviation	9.701
Minimum	.25
Maximum	40.00
Range	39.75
Skewness	1.141
Kurtosis	.517

Table 20 shows that the average length of work experience in the current workplace is about 10 years. Meanwhile, the minimum is 3 months (0.25 years) and the maximum number of years that a respondent has worked in the same workplace is 40 years.

Table 21. Values of testing the normality of the length of work experience distribution at the current workplace

Parameter	Work experience at current workplace
Kolmogorov-Smirnov	
statistic	.180
df	436
p	.000
Shapiro-Wilk	
statistic	.857
df	436
p	.000

Table 21 shows that both the Kolmogorov-Smirov and Shapiro-Wilk tests indicate that the distribution of length of work experience in the current workplace does not follow the normal distribution (p = 0.000)

Table 22. Spearman's rho test values correlate between length of work experience at the current workplace and results on the burnout questionnaire

Parameter	Spearman's rho test	
	Work experience at current workplace	Burnout
Work experience at current workplace	1.000	.043
p		.369
N	436	436

Table 22 shows that the Sperman rho coefficient is not statistically significant (p = 0.369), thus we can conclude that there is no statistically significant correlation between the length of work experience in the workplace and the results on the burnout questionnaire.

5. Discussions

The aim of this research was to investigate the prevalence of burnout among caregivers and nurses of different education levels who work in nursing homes. The study involved 436 people who voluntarily completed the questionnaire. Based on the obtained results, conclusions can be drawn about the relationship and impact of age, education level, length of service and length of work experience in the current workplace with burnout among nurses and caregivers working in nursing homes across Slovenia and Croatia. Authors Delgadillo et al. 2018, in their paper set the burnout levels that are attached in the instructions on calculating burnout scoring in the standardized questionnaire the Oldenburg Burnout Inventory. It states there that the low burnout level is ≤1.62 (low); intermediate level 1.63 – 2.67 (medium); high level of burnout ≥2.68 (high). From this research it is evident that the average result obtained by the burnout questionnaire in the examined sample is 2.562, which tells us that in the sample most nurses and caregivers working in homes have a medium level of burnout [26]. This is supported by the examination of a sample of clinical categories, where only one person has a low level of professional burnout, 68.1% have a medium level, while 31.7% of respondents have a high level.

The highest relative level of burnout in the clinical **category** "high" had the group of 34-44 years with a share of 29.7%, while at the level of clinical **groups** with 39% share had groups of 34-44 and 55-65 years. Mann-Whitney test of comparing the oldest age group 55-65 years with other groups (25-33 and 45-54 years) suggests a possible conclusion that the older age group shows higher levels of burnout than the younger age groups. Comparing the age group 34-44 with 25-33, they also obtained statistically significantly higher results, while in other combinations there are no significant differences. In a study by Kelly et al. 2015, their findings suggest that nurses aged 21-33 years are more susceptible to burnout than their older counterparts aged 34–44 years [27]. The same conclusion was reached in the work of Lee et al. 2015, in which it was stated that younger nurses are more prone to higher levels of burnout [28], as the same results obtained by Rosha Nombre et al. 2020 [29]. In their studies Torre et al. 2019 and Asghar Mohammadpoorasl 2012 did not find a significant correlation between age and burnout level [30],[31]. Our research with cross-comparison of age groups showed that older nurses have the highest burnout level.

The respondents are divided into four groups based on their education levels: caregivers, nurses with secondary education, registered nurses and nurses with master's degree. The relatively highest level of burnout in the clinical **category** "high" was shown to have nurses with secondary education with a share of 38%, while at the level of clinical **groups** it was registered nurses who had the relative highest level of burnout, with a share of 38%. Relatively average levels of burnout in the clinical **category** "medium" had nurses with secondary education with a share of 41.4%, while at the level of clinical **groups** had caregivers with a share of 71%.

Relatively high burnout levels with a share of 35% is found in nurses with a master's degree, which the same conclusion was reached by Asghar Mohammadpoorasl 2012 [31]. In their research, Torre et al. 2019 did not find a significant correlation between education level and burnout [30], nor did Sara Mahmoudi et al. 2020 in theirs [32].

Analyzing the length of service, we wanted to see if this variable affects the occurrence of burnout in nurses and caregivers. In the sample analyzed, the average length of service was 17 years, while the lowest length of service had a person who worked for three months, and the longest length of service had a nurse who worked for 43 years in her lifetime. Spearman's correlation test, which did not show statistically significant values, was used to analyze the correlation between length of service and burnout. This study showed that no matter how long their career was, it was not correlated to the burnout level in nurses and caregivers. The same conclusions were reached by Torre et al. 2019, whereby they did not find a significant connection between length of service and burnout [30], as confirmed in a paper by Asghar Mohammadpoorasl 2012 [31]. However, Daniela Filipa Rocha Nobre et al. 2020 stated that people with longer careers have lower levels of burnout [29].

The same analysis was conducted for the variable length of work experience at the current workplace in a nursing home. Spearman's correlation test did not show statistically significant values and it can be concluded that regardless of whether nurses previously worked in another workplace or institution and now work in a nursing home, the data shows that the current length of work experience does not affect the emergence of burnout.

6. Conclusion

It is evident, but also worrying, that all respondents, i.e. all nurses and caregivers, have a medium or high level of burnout, while only one respondent out of 436 people showed a low level of burnout. In the study, not a single respondent showed the absence of symptoms that would indicate the absence of burnout. It can be concluded that older nurses are more susceptible to burnout than younger nurses. Furthermore, highly educated nurses are more susceptible to relatively high levels of burnout, presumably due to greater responsibility in the workplace.

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References

[1] H.J. Freudenberger, Staff Burn-Out, Journal of Social Issues 30:1 (1974) 159-165.

[2] C. Maslach, W.B. Schaufeli and M.P. Leiter, Job burnout, Annual Rev. Psychol 52 (2001) 397–422.

[3] Maslach and M.P. Leiter, Stress: Concepts, Cognition, Emotion, and Behavior, Handbook of Stress Series 1 (2016) 351-357.

[4] M.P. Leiter and B.A. Bakker, M.P. Le Blanc and W.B. Schaufeli, Burnout contagion among intensive care nurses, Journal of Advanced Nursing 51:3 (2005) 276-287.

[5] C. Maslach, Nurse turnover: the mediating role of burnout, Journal of Nursing Management 17 (2009) 331-339.

[6] J. Ross, J. Jones, P. Callaghan, S. Eales and N. Ashman, A survey of stress, job satisfaction and burnout among haemodialysis staff, Journal Ren Care 35 (2009) 127–33.

[7] C. Harris and M.T.Q. Griffin, Nursing on empty: compassion fatigue signs, symptoms and system interventions, Journal Christ Nurs 32 (2015) 80–7.

[8] M. Baernholdt and B.A. Mark, The nurse work environment, job satisfaction, and turnover rates in rural and urban nursing units, Journal of Nursing Management 17 (2009) 994–1001.

[9] H. Jian, L. Chen, G. Yan and H. Lu, Nurse satisfaction and burnout in shanghai neurology wards. Rehabil Nurs 41 (2016) 120–7.

[10] B. Perry, Family caregivers' compassion fatigue in long-term facilities, Nursing older people 22:4 (2010).

[11] C.S. Rees, L.J. Breen, L. Cusack and H. Desley, Understanding individual resilience in the workplace: the international collaboration of workforce resilience model, Front Psychol 6:73 (2015).

[12] T. Haller, B. Quatrara, C. Miller-Davis et al., Exploring Perceptions of Shift Length: A State-Based Survey of Registered Nurses, Journal of Nursing Administration 50:9 (2020) 449–455.

[13] K. Han, A.M. Trinkoff and A.P. Gurses, Work-related factors, job satisfaction and intent to leave the current job among United States nurses, Journal of Clinical Nursing 24:21–22 (2015) 3224–3232.

[14] E.M. White, L.H. Aiken and M.D. McHugh, Registered Nurse Burnout, Job Dissatisfaction, and Missed Care in Nursing Homes, Journal of the American Geriatrics Society 67:10 (2019) 2065–2071.

[15] K. Lesly, J. Runge and C. Spencer, Predictors of Compassion Fatigue and Compassion Satisfaction in Acute Care Nurses, Journal of Nursing Scholarship 47:6 (2015) 522–528.

[16] H. Yu, A. Jiang and J. Shen, Prevalence and predictors of compassion fatigue, burnout and compassion satisfaction among oncology nurses: A cross-sectional survey, International Journal of Nursing Studies 57 (2016) 28-38.

[17] A. Rudman, and P.J. Gustavsson, Early-career burnout among new graduate nurses: a prospective observational study of intra-individual change trajectories, International Journal of Nursing Studies 48 (2011) 292–306.

[18] T. Ohue, M. Moriyama and T. Nakaya, Examination of a cognitive model of stress, burnout, and intention to resign for japanese nurses, Japan Journal of Nursing Science 8:1 (2011) 76–86.

[19] J. Profit, P.P. Sharek, A.B. Amspoker et al., Burnout in the NICU setting and its relation to safety culture, BMJ Qual Saf 23 (2014) 806–13.

[20] E.L. Woodhead, L. Northrop and B. Edelstein, Stress, Social Support and Burnout Among Long –Term Care Nursing Staff, Journal of Applaied Gerontology (2014) 1-22.

[21] I. From, G. Nordstrom, B. Wilde-Larsson and I. Johansson, Caregivers in older peoples' care: Perception of quality of care, working conditions, competence and personal health, Scandinavian Journal of Caring Sciences 27:3 (2013) 704–714.

[22] C. Juthberg, S. Eriksson, A. Norberg and K. Sundin, Perceptions of conscience, stress of conscience and burnout among nursing staff in residential elder care, Journal of Advanced Nursing 66:8 (2010) 1708–1718.

[23] B.J. Kim, H. Ishikawa, L. Liu et al., The effects of job autonomy and job satisfaction on burnout among careworkers in long-term care settings: Policy and practice implications for Japan and South Korea, Educational Gerontology 44:5–6 (2018) 289–300.

[24] J. Buchan, D. Twigg, G. Dussault, C. Duffield and W Stone, Policies to sustain the nursing workforce: An international perspective, International Nursing Review 62:2 (2015) 162-170.

[25] E. Demerouti and A.B. Bakker, The Oldenburg Burnout Inventory: A good alternative to measure burnout and engagement, U.J. Halbesleben (Ur.), Stress and burnout in health care 65–78, New York: Nova Sciences, Hauppauge (2008).

[26] J. Delgadillo, J.D. Saxon and M. Barkham, Associations between therapists occupational burnout and their patients depression and anxiety treatment outcomes, Depression and Anxiety 35:9 (2018) 844-850.

[27] L. Kelly, J. Runge and C. Spencer, Predictors of Compassion Fatigue and Compassion Satisfaction in Acute Care Nurses, Journal of Nursing Scholarship 47:6 (2015) 522–528.

[28] H.-F. Lee, M. Yen, S. Fetzer and T.W. Chien, Predictors of Burnout Among Nurses in Taiwan, Community Mental Health Journal 51:6 (2015) 733–737.

[29] D.F. Rocha Nobre, I.C. Mascarenhas Rabiais , P.C. Pontífice Sousa Valente Ribeiro et al., Burnout assessment in nurses from a general emergency service, Revista Brasileira de Enfermagem 72:6 (2019).

[30] M. Torre, M.C. Santos Popper, A. Bergesio, Burnout prevalence in intensive care nurses in Argentina Prevalencia de burnout entre las enfermeras de cuidados intensivos en Argentina, Enfermería Intensiva 30:3 (2019) 108-115.

[31] A. Mohammadpoorasl, A. Maleki1 and M.H. Sahebihagh, Prevalence of professional burnout and its related factors among nurses in Tabriz in 2012, Journal of Nursing and Midwifery Research 17:7 (2012).

[32] S. Mahmoudi, M. Barkhordari-Sharifabad, A.-H. Pishgooie, F. Atashzadeh-Shoorideh and Z. Lotfi, Burnout among Iranian nurses: a national survey, BMC Nursing 19: 69 (2020).