


## ORIGINAL ARTICLE

# Stress, burnout and coping among nurses working on acute medical wards and in the community: A quantitative study

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## Abstract

**Background:** Psychological distress can cause burnout, which affects mental and physical well-being. It is important to identify factors associated with psychological distress and physical discomfort and how nurses deal with these problems.

**Aim:** The aim was to investigate distress, burnout and coping among community nurses (CN) and hospital nurses (HN).

**Approach and Methods:** In this cross-sectional study, 409 nurses completed three questionnaires: Perceived Stress Scale (PSS), Copenhagen Burnout Inventory (CBI) and Ways of Coping (WOC).

**Findings:** Participants younger than 40 demonstrated significantly more distress and burnout than those older than 40 years. Participants who had moderate and high distress on the PSS were significantly more at risk for experiencing personal, work-related and patient-related burnout. A significant positive correlation was found between distress and behavioural escape-avoidance, cognitive escape-avoidance and distancing. Significant positive correlations were also seen between all the subscales of the CBI and behavioural escape-avoidance, cognitive escape-avoidance and distancing. Positive significant correlation was also obtained between staff resources and distress and personal-related and work-related burnout. Negative correlation was demonstrated between staff resources and patient-related burnout. Participants with longer work experience were less likely to report moderate or high distress, and those who scored higher on personal burnout and behavioural escape-avoidance were more likely to have moderate or high distress.

**Conclusion:** The results of this study call for increased attention to the younger generation in the nursing profession. The results also validate the need to investigate further the correlation between distress, burnout and coping and how these issues might influence each other among nurses working in the community and hospitals. Findings should be taken with precaution, they do not describe in detail what underlying factors contribute to distress and discomfort found in this study,

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they do, however, indicate certain coping strategies nurses use to deal with distress and burnout.

#### KEYWORDS

burnout, community nurses, coping, distress, hospital nurses, nurses

## INTRODUCTION

Nurses are among the largest professionals in the healthcare system. Their professional responsibilities are to secure patients' safety and provide high-quality care. Therefore, it should be one of the priorities within healthcare institutions to ensure the well-being of nurses [1, 2]. Nurses must meet the demands of patients and their family members and provide high-quality care [3]. However, studies have repeatedly shown that nurses find it challenging and difficult to cope with the responsibility that comes with the job, which can be psychologically strenuous and has been found to be negatively related to professional commitment [4, 5]. In this context, the International Council of Nurses (ICN) has proclaimed that the worldwide shortage of nurses and the high turnover in the nursing profession should be treated as a global health emergency [6]. Despite the difficulties mentioned above that come with the job, it should be emphasised that nurses are essential to the healthcare profession, and they deliver care that can be very rewarding.

The type of service provided by community nurses in Iceland varies greatly depending on the setting. CNs are obliged to serve patients in rural areas, which can be a challenge considering that the Icelandic landscape is shaped by forces of nature, and climatic conditions are largely unpredictable during winter and may become extremely difficult at times [7]. The most significant health and safety challenges CNs encounter in rural areas are driving long distances, road conditions and the impact of weather on road safety [8].

Within the Icelandic context, there is a notable shortage of published research examining distress, burnout and coping among nurses in general. How a person reacts to distress depends on how the person assesses a particularly stressful situation in which the stressor is identified as a particular relationship between the person and the environment that is threatening and exceeding his or her resources [9]. Distress among nurses has been assessed in different healthcare contexts with various instruments demonstrating factors that may contribute to distress, these factors can include involvement, role clarity and workload at the patient's bedside [10, 11]. However, evidence has shown that stress and

burnout function similarly in different work areas of nurses [10].

Burnout is a long-standing distress. It consists of long-term problems such as profound limited capacity and inability to meet the working requirements, which may lead to burnout, including total exhaustion [12–14]. One of the questionnaires that has been used to measure burnout is the Copenhagen Burnout Inventory (CBI). It has been used in various studies investigating burnout among healthcare workers including nurses [15, 16]. A Norwegian study on midwives [15] and a Danish study on nurses and social healthcare assistants [16] used CBI and came to the same conclusions about burnout. In both these studies, most participants had personal or work-related burnout while few had experienced patient-related burnout [15, 16]. It has also been found in a study on nurses in Romania using CBI that it can be difficult to differentiate between the two contexts of work-related burnout and patient-related burnout [17].

Preventative factors for distress and burnout demonstrated in other studies were factors contributing to the sense of well-being and satisfaction [18–20]. A high sense of coherence has been found to improve mental health, correct functioning in the working environment and the use of adaptive strategies for coping with distress [20]. It has also been suggested that burnout could be prevented given that adequate resources such as collaboration and teamwork, as well as the support of family and friends, are in place [3, 21]. In this context, a sense of belonging has been highlighted in a Swedish study [22] showing that home care providers found it important to feel that they were noticed and respected. Feelings of belonging, as well as support from one's immediate superior and co-workers, enabled nurses to better deal with day-to-day challenges [22]. In studies conducted in Sweden [18], Denmark [19] and the UK [23], it has been demonstrated that leadership style has an impact on employees' well-being and their perceptions of work-life balance. These are factors that may lead to increased distress and burnout if not managed successfully [24]. Recent studies have shown that distress and burnout are more common among nurses who are 40 years old and younger and among nurses with short working experience [25, 26], and the level of emotional exhaustion among HNs has been found to be significantly higher

than among CNs [27]. These findings indicate a need for more guidance, support and rewards for those who still lack working experiences to prevent the condition from worsening or danger of further harm. Studies have shown that factors contributing to burnout among nurses include dealing with demanding families, rotating shifts, workplace hazards, staff shortages and coping with death and loss [28, 29]. Results from a national survey conducted in Norway [30] showed an association between exposure to all types of workplace aggression and nurses' intention to leave.

To our best knowledge, no studies in Iceland have investigated these issues among both hospital and community nurses in the same study. The aim of this study was, therefore, to explore hospital and community nurses' distress, burnout and coping strategies. In this manner, we can provide an important addition to the existing Icelandic research and contribute to studies on this matter globally. Based on the literature and the lack of studies on this issue in Iceland, we set out to answer the following research questions:

1. Is there a difference in distress, burnout and coping between age groups and place of work?
2. Is there a relationship between distress, burnout, and coping strategies?

## METHODS

### Theoretical approach

The conceptual framework for this study is Lazarus and Folkman's model of stress and coping [9], which describes the individual's cognitive and behavioural efforts to reduce, minimise, master and/or tolerate internal and external demands of the person–environment transactions. Within this theoretical framework, coping with external demands is seen as serving two major functions: (1) problem-focussed coping, that is trying to change the stressor by dealing constructively with the problem that is causing the distress, and (2) emotional-focussed coping, that is the effort to manage a stressful situation by trying to regulate the emotions via changes in the perceived meaning of the stressor itself.

### Design

This cross-sectional study assessed hospital and community nurses' experiences of distress, burnout and the coping strategies they used.

### Sample

A total of 765 nurses (community 353/hospital 412) were invited to participate. To be eligible, participants had to be registered as nurses and fully understand spoken/verbal and written Icelandic. They also had to be working as nurses on acute medical (hearth problems, respiratory conditions, infections urine problems, etc.) or surgical wards in a hospital, providing care for patients with a wide range of acute medical or surgical problems, or working in the community.

### Study setting

The population in Iceland reached 376,244 in November 2023, with 64% of the population living in the capital region, and 36% living in rural settlements [31]. Participants were recruited from the National University Hospital of Iceland located in the capital, Reykjavík, and the Akureyri Hospital in the northern part of the country, which is situated in a town with 19,623 inhabitants [31]. Participants were recruited from all community healthcare services in rural areas in Iceland, community healthcare services that serve Reykjavík, the national hospital in the Reykjavík and Akureyri Hospital situated in the northern part of the country.

### Procedures

Directors of community healthcare services and hospital services were informed of the study via telephone or e-mail. After obtaining approval for the study from the directors, the questionnaires and information letters were sent to the nursing administrators of the community nursing centres and hospital wards. Each administrator distributed 42 questionnaires and information letters to relevant community healthcare centres in the rural areas, 15 community healthcare centres that serve the capital region and 17 acute medical wards at the hospitals. Data collection was conducted over a six-month period in 2018–2019. Reminders were sent once. Part of the data in this study ( $n = 164$ ) has been published earlier on nurses working in the acute medical wards [32]. That study was approved by the Ethics Committee of Administrative Research at Landspítali University Hospital (Ref: no. 1/2017). Data were gathered 2018 using the same instruments that were employed in this study. No major differences were between the study population in the earlier study and this study.

## Instruments

We chose the Icelandic version of the Perceived Stress Scale (PSS), one of the more popular tools to measure psychological distress. It is easy to answer and takes a short time to complete. The PSS has been translated into several languages and validated in many cultures demonstrating good internal reliability, in the United States (Cronbach's alpha 0.85) [33], in a Swedish version (Cronbach's alpha 0.84) [34], and in an Icelandic version (Cronbach alpha 0.84) [32]. The PSS is a self-reported questionnaire designed to measure the degree to which individuals believe their lives have been unpredictable, uncontrollable and overloaded during the previous month. The assessed items are general in nature rather than focusing on specific events or experiences. The original instrument, a 14-item scale, was developed in English [33]. Later, it was shortened to 10 items (PSS-10) using factor analysis based on data from 2387 US residents [35]. Scores are evaluated on a 5-point Likert scale ranging from 'never', 'rarely', 'sometimes', 'often' and 'always'. The total score is obtained by adding the sum from each individual question with a range of 0–40 [28]. For the PSS, scores ranging from 0 to 13 are considered as low, from 14 to 26 as moderate and from 27 to 40 as high perceived stress [36]. In our study, scores were dichotomised as low stress against moderate and high stress.

The Icelandic version of the CBI was chosen to measure burnout as it fits well with the purpose of this study. It is a tool with a clear distinction and explanation of the different components of burnout [37]. Also, given the brevity and conciseness of the CBI means that it takes only a few minutes to complete, it has also been recommended as a tool to gather information, which might be useful to guide interventions where the aim is to prevent or reduce burnout among healthcare staff [17, 38]. Icelandic version of the instrument has been tested for validity and reliability (Cronbach alpha 0.85–0.93) [39].

CBI assesses three dimensions of burnout: personal burnout, which is the individual's experiences of burnout regardless of job roles; work-related burnout, which refers to the person's experiences of burnout related to their work; and patient-related burnout, which refers to burnout directly related to the service nurses provide to their patients [37, 40]. CBI is divided into four different categories according to the level of burnout: (A) The person has no signs of burnout; (B) there are some issues which the person should be aware of; (C) the person has symptoms of burnout, which he should respond to and deal with; and (D) the person is exhausted and completely worn out and should seek help immediately to change the situation. The personal burnout scale has six items, such as: 'How

often do you feel worn out?' The work-related scale has seven items, such as: 'Do you feel burnout because of your work?' The third and last part is a patient-related burnout scale, for example, 'Does it drain your energy to work with patients?' Scores are evaluated on a 5-point Likert scale ranging from 'never', 'rarely', 'sometimes', 'often' and 'always'. Prior to the calculation of the scores for each of the component's, negatively worded questions are reversed as appropriate. Scores are assigned for each option in the following order: never (0), seldom (1), sometimes (2), often (3) and always (4). The total score is obtained by the addition of the score from the three subscales [37]. An excellent internal consistency reliability for these three subscales has been demonstrated, indicating adequate validity and reliability for measuring burnout among nurses (Cronbach alpha 0.89–0.92) [41].

We opted for the Icelandic version of the Ways of Coping Questionnaire—Cancer Version (WOC-CA) to assess coping. Translation of the WOC-CA questionnaire from English into Icelandic was carried out according to the guidelines established by the European Organisation for Research and Treatment of Cancer (EORTC) quality-of-life group [42]. The original version of the WOC-CA questionnaire included 68 items but has since then been shortened and adapted to various groups [43]. The feasibility test of the Icelandic version of the WOC-CA, including 52 questions, was conducted on 40 patients with cancer showing Cronbach alpha values at 0.46–0.81 [44], indicating adequate validity and reliability when compared with other studies conducted on bigger samples in the United States and Canada [43, 45]. In our study, the questionnaire was further adapted and shortened to 31 questions in this study. The WOC-CA measures a broad range of behavioural and cognitive coping strategies that people may use to manage their problems. It is divided into five subscales: *behavioural escape-avoidance* (avoiding others, taking risks in life, using physical efforts to avoid confronting the stressor, five-question Cronbach's alpha 0.60), *cognitive escape-avoidance* (praying, wishing and hoping for a miracle, using mental effort to flee from the stressor, five-question Cronbach's alpha 0.66), *distancing* (cognitive effort to detach or disengage oneself and to minimise the significance of the situation, seven-question Cronbach's alpha 0.80), *focusing on the positive* (deliberate, problem-focussed effort to confront the stressor, five-question Cronbach's alpha 0.81), *seeking and using social support* (efforts to seek informational, tangible and emotional support, seven-question Cronbach's alpha 0.74). These questions ask for participants' responses to what they assess as the most stressful situation, with ratings from 0 (does not apply or not used) to 4 (used a great deal). Mean is calculated by summing the scores for each scale and dividing it by the number of questions in the scale.

## Analysis

Data were analysed using the Statistical Package for the Social Science (SPSS 26.0). Descriptive statistics included a description of the sample mean, standard deviations (SD) and percentages. The chi-squared test was used to compare the categorical variables (a) those who were considered to have low stress, and (b) those who were considered to have moderate or high stress. We followed Kristensen et al.'s criteria for burnout to assess the severity of burnout [37]. These data were not normally distributed, so a Mann–Whitney *U*-test was used to analyse significant differences between groups for the PSS-10, CBI and WOC-CA scales. Partial correlation coefficient was used to analyse the correlation between psychological distress, burnout and coping, and it was controlled for the background variables: place of work, age, work experience, work experience in current job, education and staff resources. Partial correlation was used to assess the strength and direction of the correlation between psychological distress, burnout and coping between age, working experience and satisfaction with staff resources controlled for the background variable as appropriate. *p*-Values < 0.05 were considered significant [46]. Backward stepwise logistic regression was performed to assess the predictors of stress levels associated with the background variables burnout and coping. Based on the statistical tests performed in this study and the expected number of participants in groups, a two-tailed  $\alpha$  of 0.05, a statistical power of 0.80 and a medium-to-small effect size would require a total sample of a minimum of 350. With an expected response rate of 50% or less, 700 to 800 participants were considered suitable for this study [47].

## Ethics issues

Ethics Committee of Administrative Research at Landspítali University Hospital approved the study (approval no. 1/2017). Answering and returning the questionnaires was considered as participants' informed consent for participation.

## RESULTS

The response rate was 53%. The sample consisted of 204 CNs (49.1%) and 205 HNs (50.1%) working on acute medical and surgical wards. The characteristics of the participants are shown in Table 1. Most participants were in the age group 30–49 years (51.6%). Most participants had 5 years or less working experience in nursing (Table 1).

A significant difference was found between distress levels and age. Nurses younger than 40 years had significantly more moderate or high distress on the PSS than nurses 40 years or older,  $\chi^2(1, N=397)=15.1, p<0.001$ . Those who had 15 years or less working experience in nursing compared to those with 16 years or more showed significantly more moderate or high distress  $\chi^2(1, N=397)=9.3, p=0.002$ . A significant difference was found in participants' experiences of the status of staff resources, those who had low distress were more satisfied with staff resources than those who had moderate or high distress  $\chi^2(3, N=397)=12.0, p=0.007$ . It is also worth noticing that 66.7% of those who reported staff resources as being completely unacceptable influenced moderate or high distress while the remaining 33.3% had low distress.

Most participants were in category B for burnout showing that they had some signs of burnout which the person should be aware of in personal related burnout (42.6%), work-related burnout (43.2%) and patients-related burnout (48.4%). The lowest proportion of participants was shown in category D for burnout, where participants reported being exhausted and completely worn out and should seek help immediately to change the situation in personal burnout (4.4%), work-related burnout (0.2%) and patient-related burnout (2.2%).

Mean scores for distress and personal burnout among HNs were significantly higher than among CNs ( $p=0.049, p=0.043$ , respectively) (Table 2). CNs used distancing significantly more than HNs ( $p\leq 0.001$ ) and focusing on the positive ( $p=0.015$ ) as a coping strategy. Results showed significant differences between burnout and different age groups, those in the age group younger than 40 years demonstrated significantly higher level of personal burnout ( $p=0.001$ ), work-related burnout ( $p=0.004$ ) and patient-related burnout ( $p=0.001$ ), than those 40 years and older. Participants who demonstrated moderate or high distress on the PSS were significantly more at risk for experiencing burnout ( $p<0.001$ ) in all the categories. They also used significantly more often avoidance as a coping strategy ( $p<0.001$ ) than those with low distress score (Table 2).

With partial correlation, when controlling for the background variable, a positive significant correlation was found between distress and behavioural escape-avoidance (0.466), cognitive escape-avoidance (0.389) and distancing (0.323). Positive correlations were also evident between personal burnout and behavioural escape-avoidance (0.434), cognitive escape-avoidance (0.430) and distancing (0.349). Positive correlations were observed between work-related burnout and behavioural escape-avoidance (0.439), cognitive escape-avoidance (0.371) and distancing (0.342). Finally, positive correlations were found between patient-related burnout and behavioural escape-avoidance (0.312), cognitive escape-avoidance (0.284) and distancing (0.203) (Table 3).

**TABLE 1** Demographic information and place of work ( $N=409$ ).

Place of work	Hospital		Community		Total		p-Value <sup>a</sup>
	n	%	n	%	n	%	
Place of work	205	50.1	204	49.1	409	100	
Age (year)							
29 and younger	44	21.5	11	5.4	55	13.4	<0.001***
30–39	59	28.8	50	24.5	109	26.7	
40–49	52	25.4	50	24.5	102	24.9	
50–59	37	18.0	60	29.4	97	23.7	
60 and older	13	6.3	33	16.2	46	11.2	
Work experience (years)							
5 or less	63	30.7	21	10.3	84	20.5	<0.001***
6–10	35	17.1	24	11.8	59	14.4	
11–15	27	13.2	46	22.5	73	17.8	
16–20	22	10.7	24	11.8	46	11.2	
21–25	20	9.8	24	11.8	44	10.8	
26–30	15	7.3	19	9.3	34	8.3	
More than 30	23	11.2	46	22.5	69	16.9	
Work experience in current job (years)							
5 or less	94	45.9	66	32.5	160	39.1	0.041*
6–10	35	17.1	34	16.7	69	16.9	
11–15	33	16.1	37	18.2	70	17.1	
16–20	21	10.2	32	15.8	53	13.0	
More than 20	22	10.7	34	8.3	56	13.7	
Did not answer					1	0.2	
Education							
RN Nursing (college)	26	12.7	27	13.2	53	13.0	0.365
RN Nursing (university degree)	126	61.5	112	54.9	238	58.2	
Diploma in nursing	30	14.6	43	21.1	73	17.8	
Master's degree in nursing	23	11.2	21	10.3	44	10.8	
Other					1	0.2	
Staff resources							
Good	38	18.5	35	17.2	73	17.8	0.004**
Satisfactory	72	35.1	106	52.0	178	43.5	
Poor	85	41.5	54	26.5	139	34.0	
Completely unacceptable	10	4.9	9	4.4	19	4.6	

<sup>a</sup>Chi-squared test.\* $p < 0.05$ ; \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

No significant partial correlation was found between distress (PSS), burnout (CBI) and coping (WOC) with age and work experience. Participants' satisfaction with staff resources was significantly positively correlated with PSS (0.167), personal burnout (0.291), work-related burnout (0.270) and behavioural escape-avoidance (0.125) and negatively correlated with patient-related burnout (−0.153). Place of work correlated significantly with four items on the WOC scale: behavioural escape-avoidance (0.136),

distancing (0.193), focusing on the positive (0.141) and seeking and using social support (0.129) (Table 4).

Logistic regression analysis showed that people with more work experience were less likely to have moderate or high stress ( $p=0.011$ ,  $OR=0.844$ ), and people who scored higher on personal burnout and behavioural escape-avoidance were more likely to have moderate or high stress ( $p < 0.001$ ,  $OR=1.205$ ,  $p < 0.001$ ,  $OR=2.571$  respectively) (Table 5).

**TABLE 2** Comparisons of mean scores between age and place of work based on the criteria of distress.

	Low stress		Moderate or High stress		Younger than 40 years		40 years and older		Hospital		Community	
	Mean (SD/n)	p-Value <sup>a</sup>	Mean (SD/n)	p-Value <sup>a</sup>	Mean (SD/n)	p-Value <sup>a</sup>	Mean (SD/n)	p-Value <sup>a</sup>	Mean (SD/n)	p-Value <sup>a</sup>	Mean (SD/n)	p-Value <sup>a</sup>
PSS 10					14.1 (5.9/161)		11.8 (6.3/236)		13.2 (6.3/200)		12.2 (6.2/197)	0.049*
CBI												
Personal burnout	6.9 (3.8/223)		11.1 (4.4/172)	<0.001***	9.4 (4.3/164)		8.2 (4.8/243)	0.001**	9.1 (4.6/203)		8.3 (4.7/204)	0.043*
Work-related burnout	8.0 (4.2/224)		12.2 (4.5/173)	<0.001***	10.6 (4.5/164)		9.3 (4.9/245)	0.004**	10.2 (4.7/205)		9.4 (4.9/204)	0.060
Patient-related burnout	5.4 (3.7/219)		7.7 (4.0/172)	<0.001***	7.2 (4.0/164)		5.9 (3.9/239)	0.001**	6.4 (3.9/200)		6.4 (4.1/203)	0.783
WOC												
Behavioural escape-avoidance	1.0 (0.6/220)		1.4 (0.6/170)	<0.001***	1.2 (0.6/164)		1.1 (0.7/237)	0.095	1.1 (0.7/199)		1.2 (0.6/202)	0.111
Cognitive escape-avoidance	1.0 (0.7/213)		1.4 (0.7/161)	<0.001***	1.2 (0.7/158)		1.1 (0.8/227)	0.072	1.1 (0.8/192)		1.2 (0.7/193)	0.681
Distancing	1.5 (0.8/214)		1.8 (0.6/164)	<0.001***	1.6 (0.7/157)		1.7 (0.8/232)	0.102	1.5 (0.7/196)		1.8 (0.7/193)	0.001**
Focusing on the positive	1.8 (1.0/215)		1.9 (0.7/165)	0.333	1.8 (0.8/163)		1.8 (0.9/228)	0.615	1.7 (0.9/197)		1.9 (0.8/194)	0.015*
Seeking and using social support	1.9 (0.8/217)		2.0 (0.6/169)	0.244	2.0 (0.7/161)		1.9 (0.7/235)	0.159	1.9 (0.8/198)		2 (0.6/198)	0.102

<sup>a</sup>Mann-Whitney *U* test.

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

**TABLE 3** Partial correlation between distress (PSS) and burnout (CBI) with coping (WOC).

	PSS	Personal burnout	Work-related burnout	Patient-related burnout
WOC				
Behavioural escape-avoidance	0.466***	0.434***	0.439***	0.312***
Cognitive escape-avoidance	0.389***	0.430***	0.371***	0.284***
Distancing	0.323***	0.349***	0.342***	0.203***
Focusing on the positive	0.122*	0.089	0.029	0.058
Seeking and using social support	0.108	0.075	0.022	0.055

Note: Control variables: Place of work, Age, Work experience, Work experience in current job, Education and Staff resources.

\* $p < 0.05$ ; \*\*\* $p < 0.001$ .

**TABLE 4** Partial correlation between distress (PSS), burnout (CBI) and coping (WOC) with age, working experience, and staff resources.

	Age	Work experience	Staff resources	Place of work
PSS	-0.077	-0.001	0.167**	0.012
CBI				
Personal burnout	-0.006	-0.014	0.291***	0.018
Work-related burnout	-0.031	-0.019	0.270***	-0.001
Patient-related burnout	-0.047	0.001	-0.153**	0.058
WOC				
Behavioural escape-avoidance	-0.062	0.026	0.125*	0.136*
Cognitive escape-avoidance	-0.019	-0.013	0.067	0.067
Distancing	0.102	-0.065	0.105	0.193***
Focusing on the positive	0.004	-0.034	0.029	0.141**
Seeking and using social support	-0.075	-0.000	0.072	0.129*

Note: Control variables: (Place of work), (Age), (Work experience), Work experience in current job, Education and (Staff resources).

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

## DISCUSSION

There are two main findings from this study. One is the significant differences found in distress between the age groups younger than 40 years and older than 40 years. This has been demonstrated in earlier studies [25, 26] suggesting that for nurses during their first professional year, role clarity, social acceptance and task mastery might be factors that could lead to burnout [25, 26, 48]. Interventions aiming to focus on role clarity and task mastery at the very beginning of entering the professional environment may have a positive effect over the following years [48]. The values of the outcome variables in our study give reason to consider whether younger nurses need more support when they are

challenged with the responsibility included in the nurse's role [3]. Alternatively, if there are areas in nursing education that need to be improved to prepare them better for the job. It is beyond the scope of this study to explore further what might explain this, as little is known about the causal nature and direction of these relationships [49]. The lack of studies using the PSS to measure distress in nurses [10, 11] prevents any reliable comparison of these findings.

The other important finding in this present study is the significant positive correlations between distress and burnout with the use of avoidance coping strategies. Despite some resemblance between findings in our study with other studies of coping, there are some interesting differences. Evidence shows that nurses use multiple coping

Variable	OR	<i>p</i>	95% CI for OR	
Constant	0.107	<0.001		
Background				
Place of work (Hospital)	0.629	0.090	0.368	1.07
Work experience	0.844	0.011	0.740	0.961
Burnout (CBI)				
Personal burnout	1.205	<0.001	1.127	1.289
WOC				
Behavioural escape-avoidance	2.571	<0.001	1.614	4.094
−2LL	353			
Chi-square = 103.0 df = 4	<i>p</i> < 0.001			
Nagelkerke <i>R</i> Square	0.356			
Hosmer and Lemeshow Test	<i>p</i> = 0.052			
Classification accuracy	76.30%			

Note: Variables not in model: Age, Work experience in current job, Education, Staff resources, Work-related burnout, Patient-related burnout, Cognitive escape-avoidance, Distancing, Focusing on the positive and Seeking and using social support.

strategies when dealing with stressful work-situations and their consequences [50]. Findings in this present study indicated that nurses who were distressed or had signs of personal, work-related or patient-related burnout used specific coping strategies. Behavioural escape-avoidance, cognitive escape-avoidance and distancing were used significantly more often than seeking and using social support or focusing on the positive. Results from a study on staff working in emergency departments in Finland contradict these results, showing that avoidance was used significantly less than other coping methods [50]. Care should be taken when comparing these results with earlier studies, as there is a shortage of studies that have measured coping strategies among nurses with the WOC questionnaire [51]. Nevertheless, some similarities can be seen between results in our study and findings from a study conducted in Greece, which used the WOC questionnaire [51]. In both studies, nurses used avoidance as a coping strategy. However, this should be taken with caution as gender issues and cultural differences might influence the results.

It was interesting to see the resemblance between findings in our study and studies in other countries showing that personal or work-related issues are the most common causes for burnout while fewer reported patient-related issues [15, 16]. Nurses have reported ambivalent feelings regarding their experiences of complex nursing care [52]. Thus, more research is needed to explore underlying reasons for these findings. Moreover, studies have pointed out the impact of a pressured work schedule, and how that affects nurses' private life, which in turn affects their work [53]. In this context, nurses from various healthcare settings have been found to have an adequate work-life balance, but those who were older than 40 years had significantly better

work-life balance than nurses younger than 40 years old [54]. Thus, our findings indicate a need for interventions to make nurses' work meaningful and to support a work-life balance right from the start of nurses' careers.

The lack of studies on differences that might exist between nurses at different places of work makes it difficult to compare the outcome variables in this study with other studies. The positive relationship observed in this present study between staff resources and distress and burnout give reason to consider the impact the shortage of staff may have on nurses' well-being. Additionally, the negative significant evidence from this present study indicating that the more shortage of staff the more patient-related burnout is of concern [55]. In this context, the findings in this present study argue for a further investigation of the positive correlation between place of work and distancing coping strategy. Organisational resources can contribute to nurses' well-being at their workplace, and it is essential to assist them to positively adapt to stressful situations and be able to use the specific experience as a learning process [11]. This is supported by findings from other studies indicating that work-life imbalance can have serious consequences, such as emotional distress and other healthcare problems [12, 20]. A sense of meaning can affect some of the negative aspects deriving from strained work situations and help nurses consider their role as enjoyable and important [53].

When comparing levels of burnout between HNs and CNs in this present study, it was noticed that HNs nurses reported significantly higher moderate and high distress and personal burnout than CNs nurses. These findings are in accordance with results from a study conducted in Israel, which showed distress and personal burnout

TABLE 5 Logistic regression analysis of variables associated with stress level.

among nurses working in hospitals to be higher than those of working in the community [27]. This calls for further investigation to increase understanding of the relationship among these variables. However, it has been suggested that nurses are dealing with similar problems independently of the workplace [28, 29]. Possible reasons for nurses' being distressed and emotionally distraught could be, in some cases, that they are exposed to all types of workplace aggression [30]. The importance of adequate resources such as collaboration and teamwork has been addressed as helpful in preventing increased distress and emotional exhaustion leading to burnout [3, 21].

Criticism of Lazarus' and Folkman's [9] distinction between problem- and emotion-focussed coping has been presented over the years [56]. It is beyond this study to add any contribution to this argument. At a more general level, the results in our study reflect Lazarus' and Folkman's conceptual framework of stress and coping [9]. Nurses used cognitive and behavioural efforts to reduce, minimise, master and/or tolerate the situation. In this study, it was, however, interesting to find that the nurses who used avoidance strategies to cope with distress and kept the problem at a distance were those who were found to have moderate or high levels of distress. They were not trying to change the stressor by dealing constructively with the problem that was causing the distress; instead, they avoided it and kept it at a distance [9]. It can be rational to deal with the problem you face using problem or emotion-based strategies. It depends on the context of what the rational thing to do, persons can and do react differently to similar problems. They can understand the problems in various ways, or they evaluate them differently. There is no clear definition of the most effective coping strategies in each type of situation, but the most common coping strategies that have been considered efficient are social and emotional support, physical activity, and emotional and physical distancing from work [57]. However, that may be the case, avoidance, for example, can only be rational for a limited time, sooner rather than later, everyone must face up to the problem and find a lasting solution. The findings of this study provide important evidence for the nursing profession and other healthcare professionals in Iceland. This evidence aligns with evidence from studies conducted in other countries, indicating that distress and burnout are common problems among nurses, specifically those who are young [25, 26]. The results obtained in this present study may guide nurses and their superiors in detecting early symptoms of distress and burnout to prevent further harm. Although distress and burnout have been widely investigated [5, 20], it is important to continue to study these issues among nurses, considering the rapid changes in health care and how they should be managed.

## Strength and limitation

The main strength of this study is that, to the best of our knowledge, it is the first study of its kind in Iceland. This present study generates unique data on nurses working in the acute medical wards in hospitals and community nurses who work in rural and urban areas [27]. There are some limitations that might be a threat to the external validity of the findings, the primary of which is the small sample size. Despite this limitation, findings in our study were shown to be similar to other results in larger studies in terms of distress and burnout. Moreover, the results in this study align with previous results, which indicate that younger nurses and nurses with short working experiences are more likely to suffer from distress [25, 26]. The design of this study does not provide the means to identify possible factors explaining why distress and burnout affect younger nurses more seriously than those who are older than 40 years. Consequently, this knowledge remains unobtained. This can be considered a limitation in our study, but our findings indicate an urgent need to investigate in-depth contributing factors in this context [49] and solutions to reduce distress and burnout [53]. Another issue that may be seen as a limitation is the shortage of studies that have investigated coping strategies among nurses using the WOC questionnaire. This, as well as the fact that a limited number of studies seem to exist using WOC in studies of this subject [51], prevents any reliable comparison of the results related to coping.

## CONCLUSION

Results in this study indicate that there is a relatively small proportion of nurses suffering from burnout. The strong indication seen in the results of this study of moderate and high distress and burnout among younger nurses is a cause for concern. Further research specifically relating to those nurses who are younger and have little work experience is called for. Findings point to the possibility that if nurses are markedly distressed, they may have more symptoms of all three aspects of burnout and use more avoidance and distancing as coping strategies. It is worth considering the relation of avoidance and distancing nurses use to cope with difficult situations. Further results on this subject may provide managers in hospitals and community clinics with evidence, which may help to take effective actions to support nurses working in these fields.

## AUTHOR CONTRIBUTIONS

Elísabet Hjörleifsdóttir prepared the study, data collection and completed drafts for the all the chapters. Þórhalla Sigurðardóttir inserted data in SPSS, and wrote drafts for the introduction and result chapters. Guðmundur Kristján

Óskarsson was involved in data analysis and result chapter, read and corrected the whole manuscript. Eva Charlotte Halapi was involved in initial drafts of data analysis and corrections of the text in the whole manuscript.

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### CONFLICT OF INTEREST STATEMENT

There is no conflict of interest.


### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

### ETHICS STATEMENT

Ethics Committee of Administrative Research at Landspítali University Hospital approved the study (approval no. 1/2017).

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