

Professional Burnout of Neonatal Intensive Care Nurses in Lithuania

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Key Words: neonatal intensive care, nurses, professional burnout, Maslach Burnout Inventory.

Summary. The aim of this study was to investigate the level and associated factors of professional burnout of neonatal intensive care nurses in Lithuania.

Methods: Neonatal intensive care nurses from 2 Centers of Perinatology participated in an anonymous survey ($n=94$). Maslach Burnout Inventory–Human Services Survey (MBI-HSS), assessing 3 components of burnout syndrome, i.e., emotional exhaustion, depersonalization, and reduced personal accomplishments, was applied for the purposes of this study. There are 22 items, which are divided into 3 subscales. The inventory was designed for professionals in the human services.

Results. The range of scores on the emotional exhaustion scale varied from 0 to 37 points, and the mean score was 14.4 ± 7.91 points. Assessment of the extent of emotional exhaustion among neonatal intensive care nurses demonstrated that 48.9% of the nurses had a low level of physical and emotional exhaustion, 41.5% had an average level, and 9.6% were overextended and exhausted by their work. The range of the score on the depersonalization subscale varied from 0 to 20 points, and the mean score was 3.8 ± 4.75 points. It was found that 9.6% of the nurses had an average level of depersonalization and 12.8% had a high level. The range of the personal accomplishments subscale was from 6 to 48 points, and the mean score was 29.1 ± 10.12 points. A weak feeling of competence and successful achievements at work was relevant to 61.7% of the nurses, moderate to 23.4%, and strong to 14.9% of the study respondents. Neonatal nurses who were <40 years had a higher risk of professional burnout than those who were ≥ 40 years ($OR=3.159$, $P=0.044$).

Conclusions. Neonatal intensive care nurses at Lithuanian Centers of Perinatology regularly experienced job-related emotional and physical tension that was reflected on their moderate emotional exhaustion. The degree of depersonalization was low for the majority of neonatal intensive care nurses although their personal accomplishments, especially those related to interaction with patients and emotional calm, were estimated as insufficient. There is a need for neonatal intensive care unit nurses' relaxation training and managerial interventions to improve their working environment.

Introduction

German psychologist Herbert Freudenberger is known as the author of the professional burnout concept. He was the first researcher to initiate the studies on physical and psychological health problems of workers whose roles involve constant and frequent interpersonal relationships.

Professional burnout is described as a complex, long-lasting condition resulting from the influence of stressful factors at the work environment (1). Maslach et al. in 1997 (3) characterized professional burnout that encompasses emotional exhaustion, depersonalization and ineffectiveness (2) and explained those 3 distinct components. Emotional exhaustion is when person's emotional resources have been exhausted and do not recover after a rest period. A person feels too weak to start a new activ-

ity or communicate with others. This is considered the initial sign of burnout and is primarily caused by personal conflict and overload in interpersonal relations.

Depersonalization is used as a coping strategy and is characterized by emotional instability on the part of a professional, who is indifferent to his/her own work and begins to treat patients and colleagues in a cold and impersonal manner. Cynicism serves as protection from exhaustion, disappointment and frustration. Thus, constant denial of what is happening negatively affects personal wellbeing of a professional and his/her ability to perform the duty properly.

The third element – ineffectiveness (or feelings of incompetence) – reveals a negative self-assessment associated with unhappiness and dissatisfac-

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tion at work. Any new activity for a professional becomes a challenge. If self-confidence is lost, many doubts arise about what they are doing.

Following the Maslach's model of professional burnout, all 3 components develop in a progression: after emotional exhaustion is experienced, negative attitudes and feelings about other people (depersonalization) emerge and personal accomplishments decrease (4). In other words, emotional exhaustion is an essential component of professional burnout, and the other 2 follow (5).

The topic of professional burnout is one of the leading issues in nursing and health care research around the world. Situational factors of work environment (heavy workload and tasks not related to the profession) influence the development of burnout among nurses (6). Alparslan et al. determined the risk factors of burnout among midwives to be exceeded professional obligations, lack of personnel, and intensiveness of work (7). The prevalence of professional burnout among health specialists is also linked with emotional and interpersonal factors (8).

In Lithuania, the Maslach Burnout Inventory was used for the first time by Mikalauskas et al. in 2012 in a study on cardiac surgeons and cardiac anesthesiologists. The results revealed that high rating scores of emotional exhaustion and depersonalization were more relevant to cardio-surgeons because of heavy workload and relaxation deficit (9).

In Lithuania, this is the first study that addresses neonatal intensive care unit (NICU) nurses and the level and risk factors of professional burnout. Nurses from this practical area with extremely sensitive and vulnerable neonates usually are notably overloaded by complex tasks and face a lot of stressful situations (10, 11). The aim of this study was to investigate the symptoms and associated factors of professional burnout among neonatal intensive care nurses in Lithuania.

Material and Methods

Design. The study is a cross-sectional one.

Sample size. Neonatal intensive care nurses from 2 Centers of Perinatology participated in an anonymous survey. The sample included all the available neonatal intensive care nurses according to the inclusion criteria: 1) work experience at the unit of 1 year and more; 2) absence from maternity or sick leave; and 3) a signed informed consent form.

In total, 94 neonatal intensive care nurses with a mean age of 41.8 years (SD, 8.14) were enrolled in the survey. The mean total work experience and work experience at the NICU were 21.0 years (SD, 8.74) and 19.4 years (SD, 9.37), respectively. They filled the questionnaire in their work environment. The sociodemographic characteristics of the respondents are provided in Table 1.

Table 1. Sociodemographic Characteristics of Respondents

Characteristics		N (%)
Gender	Female	94 (100)
Age, years	23–40	38 (40.4)
	41–59	56 (59.6)
Place of residence	City	85 (90.4)
	Town	3 (3.2)
	Region	6 (6.4)
Education level	Vocational	46 (48.9)
	College	29 (30.9)
	University	19 (20.2)
Marital status	Married	56 (59.6)
	Lives with a partner	7 (7.4)
	Divorced	9 (9.6)
	Single	18 (19.1)
	Widow	4 (4.3)
Total work experience, years	1–20	44 (46.8)
	21–38	50 (53.2)
Work experience at NICU, years	1–20	53 (56.4)
	21–38	41 (43.6)

Instrument. The Maslach Burnout Inventory-Human Services Survey (MBI-HSS) assesses 3 components of burnout syndrome – emotional exhaustion, depersonalization, and reduced personal accomplishments. The inventory was designed for professionals in the human services.

The self-administered inventory consists of 22 items, which are divided into 3 subscales:

- The emotional exhaustion subscale has 9 items. Emotional exhaustion as the main component of burnout is evidenced by the decrease of emotions, apathy, and psychic emptiness.
- The depersonalization subscale with 5 items. Depersonalization manifests itself in deformation of human relations. A negative, cynical, or indifferent view of people at work begins to dominate – associates are not seen as personalities any longer, they are treated as objects.
- The personal accomplishment subscale has 8 items. Low personal accomplishment work shows itself in negative estimation of one's own professional skills and qualifications, restriction of professional potentials, under-evaluation of one's own importance at work (9).

All the items are written as statements and are answered in terms of the frequency with which the respondent experiences such feelings, on a 7-point scale (where 0 is “never” and 6 is “every day”). Because of the high distribution of the rating scores and with the purpose of more comprehensive presentation of the results, the descriptions of frequencies “once per year” and “several times per year”

as well as the descriptions “once per month” and “several times per month” were combined.

For both, the emotional exhaustion and depersonalization subscales, higher mean scores indicate higher degrees of experienced burnout. In contrast, for the personal accomplishment subscale, lower mean scores reflect higher degrees of burnout. The internal consistency of the inventory subscales was satisfactory with Cronbach α values of 0.7 and above (Table 2).

Statistical analysis. Statistical data analysis was performed using the Statistical Package for Social Sciences for Windows (SPSS) version 22.0. The level of statistical confidence was 95%, and the significance was defined by a P value of 0.05. For descriptive statistics mean scores, standard deviation (SD), minimum and maximum scores were calculated. For comparative data analysis, the Student t test, chi criterion, exact Fisher test, and ANOVA were applied. Associations between the risk of professional burnout and sociodemographic and other factors were evaluated by applying the logistic regression analysis.

The Committee on Bioethics in Clinical Studies of Kaunas Region issued the permission No. BE-2-15 to perform the survey.

Results

The degree of professional burnout experienced among NICU nurses was investigated by assessing the prevalence of 3 main components of burnout syndrome: emotional exhaustion, depersonalization, and reduced personal accomplishments.

The results showed that the range of scores on the emotional exhaustion scale varied from 0 to 37 points and the mean score was 14.4 ± 7.91 . Assessment of the extent of emotional exhaustion among neonatal intensive care nurses demonstrated that 48.9% of the nurses had low mean scores on physical and emotional exhaustion, 41.5% had the average level, and 9.6% of the respondents had high scores reporting overextension and exhaustion by their work.

Data analysis on the frequency of feelings revealed that many emotional exhaustion conditions were experienced by NICU nurses several times per year. Emotional and physical exhaustion at work or after work was experienced several times per month by 46.8% of the respondents. The day-long interaction with people while carrying professional duty was exhausting for 8.5% of the nurses in this study. Being at the edge of emotional exhaustion was relevant to 5.3% of the respondents (Table 3).

The range of depersonalization varied from 0 to 20 points, and the mean score was 3.8 ± 4.75 points. It was determined that 9.6% of the nurses had an average level of depersonalization and 12.8% had a high level.

The feelings on the depersonalization scale were not relevant for the majority of the study respondents at all or were experienced by the nurses mostly once a year. A small proportion of the nurses (5.3%) reported the feeling of patients' blame for some of their problems every day (Table 4).

The range of scores on the personal accomplishment subscale varied from 6 to 48 points, and the mean score was 29.1 ± 10.12 . A weak feeling of competence and successful achievement at work was relevant to 61.7% of the nurses, an average feeling was relevant to 23.4%, and a strong feeling was relevant to 14.9% of the study respondents.

On the personal accomplishment subscale, more than half (54.3%) of the NICU nurses noted that every day they felt positive influencing other people's lives through their work. The majority of the NICU nurses could easily understand how their patients felt about different things (40.4%) and were able to deal very effectively with problems of those patients (41.5%). Besides, 10.6% of the nurses were full of energy every day (Table 5).

The logistic regression analysis was applied to determine the factors of professional burnout. It revealed that the neonatal nurses who were aged <40 years had a higher risk of professional burnout than those who were $40 \geq$ years ($OR=3.159$, $P=0.044$). No other significant associations between sociode-

Table 2. Structure of the Maslach Burnout Inventory–Human Services Survey and Measures of Internal Consistency

Subscales	No. of Items	Range of Mean Scores*			Internal Consistency
		Low	Average	High	
Emotional exhaustion	9	0–16	17–26	>26	0.795
Depersonalization	5	0–6	7–12	>12	0.706
Personal accomplishment	8	0–31	32–38	>38	0.760
Total scale	22	NA			0.851

*Numerical cut-off points listed on the scoring key. NA, not applicable.

Table 3. Frequency of NICU Nurses' Feelings on the Emotional Exhaustion Subscale

Item on the Emotional Exhaustion Subscale	% (n=94)				
	Never	Once per Year	Once or Several Times per Month	Once or Several Times in a Week	Everyday
I feel emotionally drained from my work	6.4	29.8	46.8	13.8	3.2
I feel used up at the end of the workday	2.1	18.1	46.8	29.8	3.2
Working with people directly puts too much stress on me	16.0	30.9	41.4	10.6	1.1
Working with people all day is really a strain for me	23.4	22.3	29.7	15.9	8.5
I feel like I am at the end of my rope	28.7	34.0	24.5	7.5	5.3
I feel burned out from my work	38.3	35.1	19.1	6.4	1.1
I feel I am working too hard on my job	58.5	27.7	13.9	0.0	0.0
I feel fatigued when I get up in the morning and have to face another day on the job	39.4	35.1	18.1	3.3	4.3
I feel frustrated by my job	54.3	33.0	10.7	1.1	1.1

Table 4. Frequency of NICU Nurses' Feelings on the Depersonalization Subscale

Item on the Depersonalization Subscale	% (n=94)				
	Never	Once per Year	Once or Several Times per Month	Once or Several Times in a Week	Everyday
I have become more callous towards people since I took this job	62.8	20.2	7.4	7.4	2.1
I worry that this job is hardening me emotionally	56.4	25.5	11.7	5.3	1.1
I feel I treat some recipients as if they were impersonal objects	71.3	12.8	9.6	4.3	2.1
I do not really care what happens to some recipients	68.1	23.4	5.3	0.0	3.2
I feel recipients blame me for some of their problems	56.4	26.6	9.6	2.2	5.3

mographic factors and the risk of professional burnout were determined in this study (Table 6).

Discussion

Stress and burnout are concepts that have sustained the interest of nurses and researchers for several decades. These concepts are highly relevant to the workforce in general and nursing in particular. This study was the first attempt to investigate the level of burnout among Lithuanian NICU nurses and to determine the related factors for the risk of burnout.

Occupational burnout is mental and physical fatigue and interpersonal alienation caused by chronic work stress that renders workers unable to maintain work functions (12). According to the Maslach Burnout Inventory-Human Services Survey manual, the burnout is stated when all 3 dimensions – emotional exhaustion, depersonalization,

and ineffectiveness – are relevant to an individual (4). In this study, the perception of professional burnout components among the respondents and associations with their sociodemographic characteristics were assessed. The mean scores on the emotional exhaustion (mean score, 14.4) and depersonalization (mean score, 3.8) subscales were lower in this study compared with the results of Gabbe et al. where the mean score on emotional exhaustion and depersonalization for nurses and physicians was 22.2 and 7.1, respectively (13).

In the Iranian study, the mean scores of occupational burnout among nurses working in emergency (ER) wards and intensive care (ICU) wards were significantly higher than those of nurses working in orthopedic and dialysis wards, seemingly because of higher workload and stress in ER and ICU wards (10). In our survey, NICU nurses had moderate

Table 5. Frequency of NICU Nurses' Feelings on the Personal Accomplishment Subscale

Item on the Personal Accomplishment Subscale	% (n=94)				
	Never	Once per Year	Once or Several Times per Month	Once or Several Times in a Week	Everyday
I feel exhilarated after working closely with my recipients	18.1	18.1	28.8	17.0	18.1
I have accomplished many worthwhile things in this job	5.3	17.0	22.4	30.8	24.5
I feel I am positively influencing other people's lives through my work	5.3	8.5	18.1	13.9	54.3
In my work, I deal with emotional problems very calmly	9.6	17.0	21.2	33.0	19.1
I feel very energetic	5.3	20.2	23.4	40.5	10.6
I can easily understand how my recipients feel about things	11.7	5.3	10.6	31.9	40.4
I deal very effectively with the problems of my recipients	11.7	6.4	14.9	25.5	41.5
I can easily create a relaxed atmosphere with my recipients	11.7	24.5	18.1	30.8	14.9

Table 6. Associations Between Sociodemographic Variables of Respondents and Professional Burnout

Sociodemographic Factor		OR (95% CI)	P
Age, years	18–39	3.159 (1.032–9.667)	0.044
	40–65	1.000	
Place of residence	Big city	1.000	0.190
	Other	2.967 (0.582–15.120)	
Education level	Vocational	0.866 (0.294–2.549)	0.794
	College	1.030 (0.319–3.329)	0.960
	University	1.000	
Marital status	Married	1.291 (0.563–2.961)	0.546
	Not married	1.000	
Total work experience, years	1–20	1.466 (0.644–3.336)	0.362
	21+	1.000	
Work experience at NICU	1–20 years	1.451 (0.637–3.306)	0.375
	21+ years	1.000	

(40%) or high (9%) degrees of emotional exhaustion. The results corresponded with those of a Spanish study by Santana et al., where a moderate degree of emotional exhaustion was found among nurses (22.3) and nurses' aides (26.5) working in ICU and on admission wards (14).

Depersonalization is a fundamental defining feature of professional burnout, since its other characteristics can be observed in depressive disorders in general. In this study, Lithuanian NICU nurses (70%) experienced a low degree of depersonalization with the mean score of 3.8. It may be noted that despite high intensity at work, involvement into stressful situations, daily interpersonal relations

with colleagues and patients' families, NICU nurses have positive attitudes toward other people.

The results showed that more than half of the nurses (61.7%) in our study had a weak feeling of competence and successful achievement at work. The Lithuanian NICU nurses felt very positive about their abilities to recognize and solve problems of their patients. However, they reported having difficulties in creating a relaxed atmosphere with their patients and dealing with emotional problems in a calm manner. It can be stated that NICU nurses are much more self-confident in achieving professional competence than demonstrating proficiency of interpersonal communication and emotional balance.

Not only the subtle interactive relationship between workers and their work is related to occupational burnout. Other factors such as personal background (e.g., sex, age, marital status, years of work experience, and employment status) may influence the manifestation of work stress, which then presents as diverse symptoms (12). A study of Ozden et al. carried out in 2012 revealed a significant relationship between intensive care nurses' education level, working duration, working in shifts, and training about ethics and their mean scores for the dimensions of burnout, but no significant relationship between the nurses' age, marital status, working hours in intensive care and other factors was observed (15). Our survey revealed the significant association between age as a sociodemographic variable of respondents and the risk of professional burnout. The risk of professional burnout was significantly higher for neonatal nurses who were aged <40 years than those who were aged ≥ 40 years. This may be explained by possible influence of personal life differences between those 2 groups of NICU nurses. Nurses who are in their mid-40s usually have family obligations, such as taking care of housekeeping or being between the demands of child care and elder care; thus, their work interfering with family had a direct relationship with work exhaustion (16). Part of them alongside with practical work also continue their nursing studies at a higher level (BSN or MSN) in college or university. One study of female nurses found that work interfered with family more than family interfered with work, which makes family-work conflict an important factor in whether individuals perceive situations as stressful (17). All those additional responsibilities increase physical and emotional workload for younger nurses and make them vulnerable for the risk of professional burnout.

Further research is needed to move beyond the use of descriptive design. Alongside a better understanding of work-related burnout among neonatal nurses and related factors, analyses of the effect of stress on patient outcomes, safety practices, and quality of care at NICU are needed.

Hospital administration and nurse administrators in particular are responsible for creating safe and positive environment in which nursing is practiced and patient care is given. Their obligation is to develop and implement managerial interventions to improve working environment for preventing nurses' burnout, increasing their satisfaction in the profession, and ensuring sustainable nursing workforce. Our study showed that NICU nurses need additional preparation on stress and burnout coping strategies, training of relaxation methods, and improvement of effective communication techniques.

Conclusions

Neonatal intensive care nurses at Lithuanian Centers of Perinatology regularly experienced job-related emotional and physical tension that was reflected on their moderate emotional exhaustion. The degree of depersonalization was low for the majority of neonatal intensive care nurses although their personal accomplishments, especially those related to interaction with patients and emotional calm, were estimated as insufficient. There is a need for NICU nurses' relaxation training and managerial interventions to improve their working environment. The research development has to be based on comprehensive studies that will examine the effects of NICU nurses' burnout on patient outcomes, patient safety, and quality care.

Statement of Conflict of Interest

The authors state no conflict of interest.

Naujagimių intensyvosios terapijos slaugytojų profesinis perdegimas Lietuvoje

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Santrauka. *Tyrimo tikslas.* Nustatyti naujagimių intensyvosios terapijos slaugytojų profesinio perdegimo laipsnį ir jį lemiančius veiksnius.

Metodai. Anoniminėje apklausoje dalyvavo naujagimių intensyvosios terapijos slaugytojai (N=94). Profesiniam perdegimui nustatyti naudotas standartizuotas Maslach perdegimo klausimynas (angl. *Maslach Burnout Inventory-Human Services Survey* – MBI-HSS), skirtas sveikatos priežiūros darbuotojų perdegimo sindromui tirti. Klausimyną sudarė trys poskalės, t. y. 22 teiginiai.

Rezultatai. Emocinio išsekimo poskalės reikšmių intervalas svyravo nuo 0 iki 37 balų, poskalės balų vidurkis – 14,4 \pm 7,91. Vertinant tiriamųjų emocinio išsekimo lygį nustatyta, kad 48,9 proc. slaugytojų turėjo

žemą fizinių ir emocinių organizmo išteklių išsekvojimo lygį, 41,5 proc. – vidutinį ir 9,6 proc. – aukštą. Depersonalizacijos poskalės reikšmių intervalas buvo nuo 0 iki 20 balų, o balų vidurkis sudarė $3,8 \pm 4,75$ balo. Vidutinis depersonalizacijos lygis nustatytas 9,6 proc. tyrimo dalyvių, aukštas – 12,8 proc. Asmeninių laimėjimų poskalės reikšmių intervalas buvo nuo 6 iki 48 balų, vidurkis siekė $29,1 \pm 10,12$ balo. Žemas sąvęs ir savo gebėjimų vertinimas buvo būdingas 61,7 proc. tyrimo dalyvių, vidutinis – 23,4 proc., aukštas – 14,9 proc.

Jaunesnių nei 40 m. slaugytojų profesinio perdegimo rizika buvo didesnė, nei tų, kurioms buvo 40 m. ir daugiau ($\chi^2=3,159$, $p=0,044$).

Išvados. Perinatologijos centrų naujagimių intensyviosios terapijos slaugytojai reguliariai patiria fizinę ir emocinę įtampą, kuri lemia vidutinio lygio emocinį išsekimą. Šiems slaugytojams būdinga depersonalizacija (žemas įvertis), taip pat jie menkai vertina save ir savo pasiekimus, ypač siekdami ramaus ir veiksmingo bendravimo su pacientais. Svarbu mokyti naujagimių intensyviosios terapijos slaugytojus atsipalaidavimo technikas, o administratoriams privalu gerinti slaugytojų darbo aplinką.

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