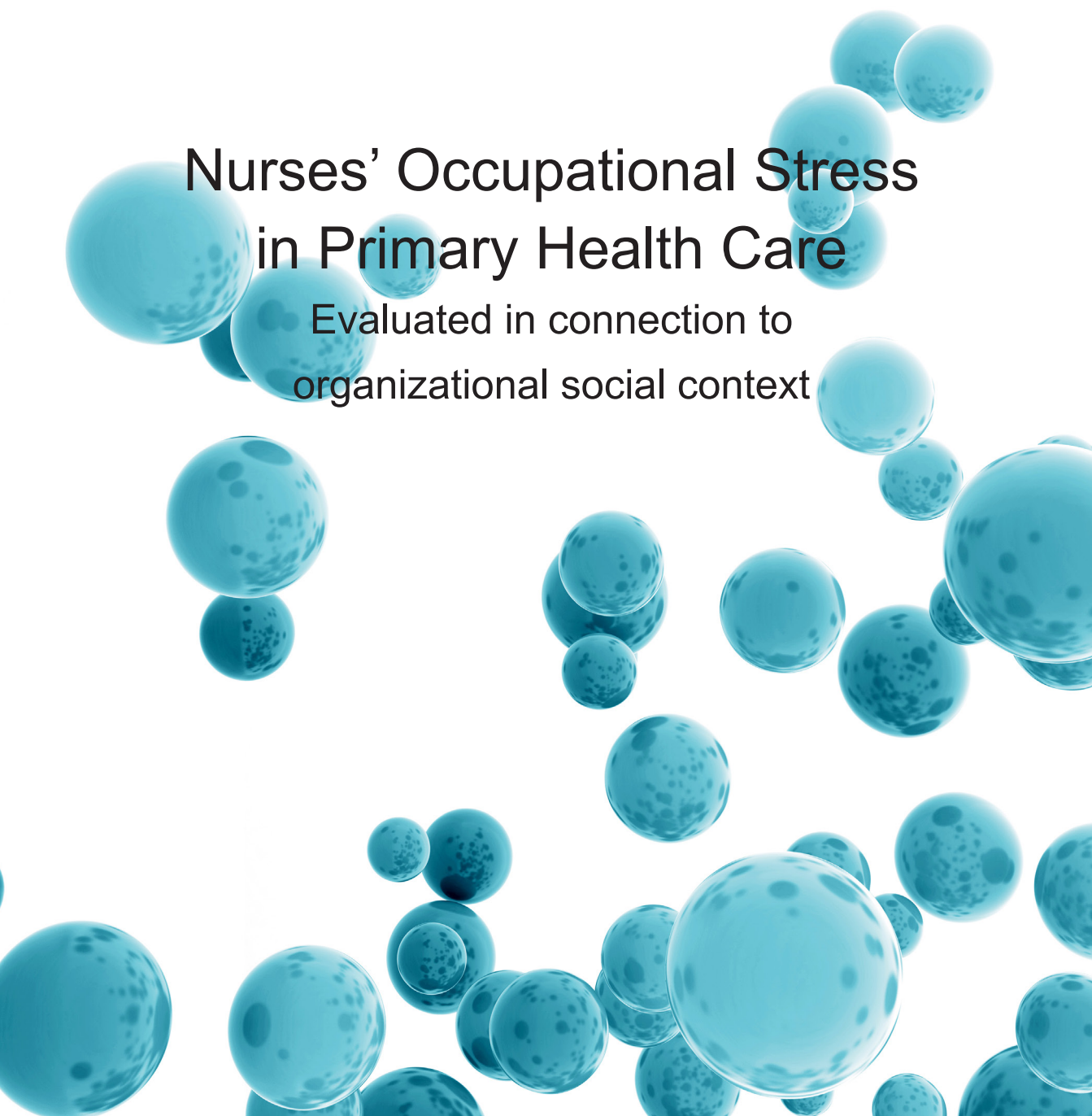# NIJOLĖ GALDIKIENĖ

Nurses' Occupational Stress in Primary Health Care

Evaluated in connection to organizational social context

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UNIVERSITY OF TAMPERE

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Abstract

Stress is one of the most severe occupational risks among nurses working in different health care settings, as well for nurses working in primary health care. Most frequently nurses experience stress when they have a heavy workload, experience conflict with supervisors and staff, or undertake work with high emotional demands. Furthermore, researchers have found potential relationships that exist between stress and the organizational social context (i.e. the organizational culture, organizational climate and morale). The purpose of this study was to describe and evaluate nurses experienced stress and its connections with the organizational social contexts in primary health care. The ultimate goal was to add knowledge that may reveal ways of developing organizational culture and climate, so as to protect nurses from stress.

A cross-sectional descriptive study was conducted to offer an empirical representation of nurses' experienced stress, their organizational culture and climate, and their morale. The Expanded Nursing Stress Scale (ENSS) and the Organizational Social Context (OSC) measurement system were used in this study.

Data was collected between August 2009 and January 2010 in one Lithuanian county. In total, 187 nurses completed the ENSS and 344 health care professionals (including nurses) completed the OSC questionnaire. Health care professionals (nurses, physicians and others) from 29 teams in 18 primary health care centers participated in this study.

Nurses working in primary health care experienced stress related to situations when facing death and dying, and when experiencing conflicts with physicians, and when dealing with patients and their families. Older nurses and nurses with longer work experience reported intensive levels of stress in conflict situations with physicians. Nurses working with younger patients experienced higher levels of stress than those working with adult patients.

The investigation of experienced stress among nursing teams shows that stress is relative to the team. The effect of team size is moderate, and the background factors of the teams had little association with the sub-areas of stress. Workload was the factor that tended to cause more stress in larger teams. At the nurses' team level, a strong positive correlation was found between all of the stress

subcategories investigated, except for that of 'discrimination'. Different teams followed different stress profiles, but based on their common features, various clusters were identified which should be of interest to nursing management.

The social context (organizational culture, organizational climate and morale) varied, depending on the view point of different health care professionals. Different organizational cultures, climates and levels of morale existed at both team and organizational levels. Significant differences between teams were found in their culture rigidity and resistance. At an organizational level, significant variations were found in culture rigidity, resistance and proficiency. Climate differed at team and organizational levels in regard to stress and functionality.

The relationship between organizational culture, organizational climate and nurses' experienced stress in primary health care centers differed across primary health care teams. Nurses' stress significantly correlated with a resistant organizational culture and with climate functionality. Nurses working in teams with a resistant organizational culture experienced stress in situations when they had problems with their supervisors, difficult situations with patients and their families, and when they experienced conflicts with physicians. When the climate functionality among team members was low, nurses experienced stress in situations involving problems with their peers and supervisors, and in situations where difficulty was created by some form of inadequate preparation.

The results of this study on nurses' experienced stress in primary health care may help to identify problems, and to also find ways to protect nurses from stress. Managers should be aware of the variation in experienced stress among nurses who work in different teams, and should also recognize the different social contexts in which teams work in order to identify fixable problems, decrease nurses' experienced stress, and to promote evidence-based practices which relate to this important area. An evaluation of the organizational culture and climate in primary health care increases our knowledge of the organizational factors that contribute to performance in the field of nursing.

Tiivistelmä

Nijole Galdikiene: Hoitajien työstressi perusterveydenhuollossa. Arviointi suhteessa organisaation sosiaaliseen todellisuuteen

Stressi on yksi vakavimmista työhön liittyvistä riskeistä eri terveydenhuoltoalan konteksteissa työskentelevillä hoitajilla, kuten myös perusterveydenhuollossa työskentelevillä hoitajilla. Useimmiten hoitajat kokivat stressiä johtuen työmäärästä, johtamisesta, konflikteista sekä johtajien että henkilökunnan kanssa ja emotionaalisista vaatimuksista johtuen. Lisäksi tutkijat ovat yrittäneet löytää selitystä mahdollisesta stressin ja organisaation sosiaalisen kontekstin (organisaatiokulttuuri, organisaatioilmapiiri ja moraali) välisestä yhteydestä. Tämän tutkimuksen tarkoituksena oli kuvata ja arvioida hoitajien kokemaa stressiä ja sen yhteyttä sosiaaliseen kontekstiin perusterveydenhuollossa. Perimmäinen tavoite oli lisätä tietoa, jotta löydettäisiin keinoja organisaatiokulttuurin ja ilmapiirin kehittämiseksi hoitajien stressin ehkäisemiseksi.

Empiirinen kuvaileva poikkileikkaustutkimus tehtiin hoitajien kokemasta stressistä, organisaation kulttuurista ja ilmapiiristä sekä moraalista. Aineisto kerättiin Liettuassa, yhdessä maakunnassa elokuusta 2009 tammikuuhun 2010. Aineisto kerättiin kahdella mittarilla: Expanded Nursing Stress Scale (ENSS) ja Organizational Social Context (OSC) -mittari. Yhteensä 187 hoitajaa vastasi hoitajien stressiä mittaavaan mittariin (ENSS) ja 344 terveydenhuoltohenkilöstöön kuuluvaa (mukaan lukien hoitajat) vastasivat sosiaalista kontekstia (OSC) mittaavaan mittariin. Terveydenhuoltohenkilöstö (hoitajat, lääkärit ja muut) yhteensä 29 tiimistä, jotka olivat 18 terveyskeskuksesta (primary health care centers) osallistui tähän tutkimukseen.

Perusterveydenhuollossa työskentelevät hoitajat kokivat stressiä tilanteessa, jolloin he kohtasivat potilaiden kuoleman ja kun heillä oli konflikteja lääkäreiden, potilaiden ja heidän perheidensä kanssa. Vanhemmat ja pidemmän työkokemuksen omaavat hoitajat raportoivat intensiivisestä stressistä lääkäreiden kanssa olevissa stressitilanteissa. Nuorempien potilaiden parissa työskentelevät hoitajat kokivat enemmän stressiä kuin ne, jotka työskentelivät aikuispotilaiden kanssa.

Kokemusta stressistä hoitajatiimissä tutkittaessa havaittiin sen vaihtelevan tiimeittäin. Tiimin koon merkitys on kohtalainen. Tiimiä koskevien taustatekijöiden yhteys stressin osa-alueisiin oli pieni. Työmäärä näytti aiheuttavan enemmän stressiä isommissa tiimeissä. Hoitajien tiimien tasolla löydettiin vahva positiivinen korrelaatio kaikkien tutkittujen stressin osa-alueiden välillä lukuun ottamatta syrjintää. Eri tiimeillä oli erilaisia profiileja stressin osalta, mutta yhteneväisyyksien mukaan erilaisia ryhmiä oli tunnistettavissa mikä johtajien tulisi havaita.

Sosiaalinen konteksti (organisaatiokulttuuri, organisaatioilmapiiri ja moraali) vaihtelivat terveydenhuoltohenkilöstön näkökulmasta. Erilaisia organisaatiokulttuureja, ilmapiirejä ja moraalin tasoja oli sekä tiimitasolla että organisaatiotasolla. Merkittäviä tiimien välisiä eroja oli kulttuurin joustamattomuuden ja vastarinnan suhteen. Organisaatiotasolla löydettiin merkittäviä vaihteluita kulttuurin joustamattomuuden, vastarinnan ja pätevyyden suhteen. Ilmapiiri vaihteli sekä tiimi- että organisaatiotasolla sekä stressin että funktionaalisuuden osalta.

Organisaatiokulttuurin, ilmapiirin ja hoitajien kokeman stressin yhteys perusterveydenhuollossa erosi yli tiimien. Hoitajien kokema stressi korreloi tilastollisesti merkitsevästi kestävän organisaatiokulttuurin ja ilmapiirin funktionaalisuuden kanssa. Hoitajat, jotka työskentelivät tiimeissä, joiden organisaatiokulttuuria leimasi pätevyys kokivat stressiä tilanteissa, jolloin heillä oli ongelmia johtajien kanssa, tilanteissa potilaiden ja perheiden kanssa ja konflikteissa lääkäreiden kanssa. Kun ilmapiirin funktionaalisuus tiimissä oli matala, hoitajat kokivat stressiä tilanteissa, jolloin heillä oli ongelmia ikätovereiden ja johtajien kanssa ja kun valmistautuminen oli ollut riittämätöntä.

Tulokset hoitajien kokemasta stressistä perusterveydenhuollossa auttanee tunnistamaan ongelmia ja löytämään keinoja hoitajien stressin ennaltaehkäisemiseksi. Johtajien tulisi olla tietoisia hoitajien kokeman stressin vaihteluista eri tiimeissä ja heidän tulisi tunnistaa erilaiset sosiaaliset kontekstit missä tiimit työskentelevät, jotta he voivat tunnistaa ratkaistavissa olevat ongelmat ja vähentää hoitajien kokemaa stressiä ja edistää näyttöön perustuvia käytäntöjä. Perusterveydenhuollon organisaatiokulttuurin ja organisaatioilmapiirin arviointi lisää tietoamme organisatorista tekijöistä, jotka myötävaikuttavat suuressa määrin hoitotyön alueella.

Asiasanat: terveydenhuoltohenkilöstö, moraali, hoitaja, perusterveydenhuolto, organisaatiokulttuuri, organisaatioilmapiiri, stressi

List of tables, figures and appendices

List of original publications

This dissertation is based on the following articles, which are referred to in the text by their Roman numerals from I to IV:

I Galdikienė, N., Asikainen, P., Balčiūnas, S. & Suominen, T. 2014. Do nurses feel stressed? A perspective from primary health care. Nursing & Health Sciences, 16(3), 327-334. doi: 10.1111/nhs.12108/

II Galdikiene, N., Asikainen, P., Balciunas, S. & Suominen. T. 2016. Experienced stress among nursing teams in primary health care. Clinical Nursing Studies 4(1), 81-90. doi:10.5430/cns.v4n1p81

III Galdikiene, N., Asikainen, P., Rostila, I., Green, P., Balciunas, S. & Suominen, T. 2016. Organizational social context in primary health care. Nordic Journal of Nursing Research, 36(2), 103-111. doi: 10.1177/2057158516628728

IV Galdikiene, N., Asikainen, P., Rostila, I., Green, P., Balciunas, S., Helminen, M. & Suominen, T. 2016. The connection between nurses' stress and organizational culture and climate in primary health care teams. Contemporary Nurse (submitted).

The original publications have been reprinted with the permission of the copyright holders. Article IV is not included in the electronic version of the summary as it has not yet been published. The summary contains some unpublished results.

1 Introduction

Ongoing economic, social and political changes in health care system contribute to a stressful work environment. Changes in the health care system influence the work environment, and consequently the well-being of health care professionals. Work stress represents a major problem for both individual employees and organizations (Lindholm, 2006).

Health care professionals represent a big group of specialists working in a sensitive area. According to Global Health Observatory data, the total number of nursing and midwifery personnel working in health care in (data from 2008-2015) differs between countries, for example: Germany – 918000, Poland – 222667, Finland – 126869, Sweden – 108163, Lithuania – 24174, Slovenia – 16460, Estonia – 8605. There were 71.7 nurses and midwives per 10 000 members of the population in Lithuania. Some countries such as Germany (110.98/10 000), Sweden (110.5/10 000), Finland (108.6/10 000), Slovenia (83.94/ 10 000) have bigger ratios of staff to population. Other countries such as Estonia (65.54/10 000) and Poland (57.99/10 000) have smaller ratios of nurses and midwifes to their population. The median of nurses and midwifes for European countries is 80.2/10 000 (World Health Organization, 2015). Looking at the numbers of nursing and midwifery personnel working in different countries, we see that compared to other European countries, Lithuania does not have enough nurses and midwives.

According to Milutinovic et al. (2012), stress is one of the most severe occupational health risks in the European Union. It is a broadly spread and costly problem within workplaces, as well as posing a problem to modern societies. Occupational stress has become one of the major and growing public health problems, and has a negative impact on physiological and mental health (Lee et al., 2013). Nurses' experienced occupational stress in a changing work environment is discussed as being a global concern in health care (World Health Organization, 2007). Some researchers have reported that changes in health care systems, have implications on the role stress felt by nurses (Admi & Moshe-Eilon, 2010). It is also reported that nursing is a strenuous job, and that work-related stress is prevalent among nurses (Al-Makhaita et al., 2014).

Nurses' occupational stress is recognized as an international and complex phenomenon (Nabirye et al., 2011). Researchers have previously tended to study nurses' stress more in the hospital setting (Yang et al., 2004; Kriukelyte et al., 2005; McGilton et al., 2007; AbuAlRub et al., 2009), and especially in acute and specialized care units (Vimantaite & Seskevicius, 2006; Chen et al., 2009; Milutinovic et al., 2012). Studies oriented to nurses' experienced stress in primary health care were found to be less common (Lee, 2003; Sakano et al., 2012).

In primary health care centers, care is provided by teams. The World Health Organization (2003) defined a primary care team as a group of "fellow professionals with complementary contributions to make in patient care". In the empirical part of this study, the team is defined as health care professionals working together on a daily basis and having common tasks, a common work environment and a common manager/supervisor (Glisson & James, 2002; Rostila et al., 2011).

Primary health care centers are mostly small, office-based organizations and do not have large numbers of staff (Bosh et al., 2008). In Lithuania, the primary health care team usually includes general practitioners, community nurses, clinical administrative employees and occasionally social workers (Jaruseviciene et al., 2013). Nurses working in primary health care centers have an increasing number of responsibilities and demands, stemming from patients, the community, and from health care managers and their own peer group. Also, some primary health care nurses may form the first contact for patients with acute episodic problems, and in terms of managing chronic diseases and providing ongoing care in varying capacities (Poghosyan et al., 2013). Nurses play a key role in primary health care teams, particularly in the management of chronic diseases (Al Sayah et al., 2014). All of these situations influence a nurse's experienced stress, especially when they involve special work situations. Work environment features such as management, staff conflicts, workload and emotional demands are the most frequently reported stressors faced by nurses (Lambert & Lambert, 2001; Chang et al., 2005).

Nurses' experienced stress has mainly been studied as an individual experience, although it has been found to have an overall effect on nurses' physical and psychological health (McKinney, 2011; Jaradat et al., 2016). This study takes an interest in nurses' stress at a team level. Tucker et al. (2013) found that the stressor-strain relationship was moderated by both individual and team level factors. Factors relating to team level stress have previously been reported in nurse-based studies by Ekedahl and Wenström (2008). Furthermore, researchers have tried to find an explanation for possible relationships between stress and the

organizational culture and climate. Organizational culture determines the way that work is done in an organization, and organizational climate specifies how people perceive their work environment (Glisson, 2007). Explanations for stress-related experiences have also been investigated, based on individual level factors. For example, Glisson and Durick (1988) investigated workforce morale in a study that included job satisfaction and organizational commitment.

Occupational stress has been found to impact the performance of the health care organizations in which employees work (Davey et al., 2009), and organizational culture and climate have been found to correlate with occupational stress. Researchers have highlighted the organizational features which attract or retain nurses (Stordeur & D'Hoore, 2007). A high level of stress was reported among nurses when poor social relations existed in the work place, or where perceived bureaucratic constraints and poor job prospects (Clarke, 2006), or a lack of control and social support (McVicar, 2003; Leka et al., 2012) were found. It is however noted that organizations are complex multi-layered systems (Clarke, 2006), and that occupational stress could involve both individual and social context based factors (Dollard et al., 2007).

The researcher's 10 year work experience in primary health care as a nurse and also her participation in primary health care reform of Lithuania in 1996 as an expert for community nursing allowed her to see some of the main problems of primary health care organizations, for example those which relate to nurse stress. To be able to provide high quality primary health care services and to ensure nurses' wellbeing, there is need for research that focuses specifically on primary health care nurses' stress, and also the organizational social context in which they work.

The ultimate goal of this study was to look for knowledge that help to develop the organizational culture and climate and which could be used to decrease nurses' stress. This study generates knowledge regarding the stress factors which influence the experienced stress of primary health care nurses, and evaluates its perceived levels. Also this study measures the primary health care teams' organizational social context (culture, climate and morale), and looks for a connection between nurses experienced stress and the organizational social context at a team level. This study offers implications for nursing practice, nursing management, nursing education, and also offers suggestions for future research.

2   Overview of the literature

The literature overview conducted for this study covered a period from 1968-2016. It aimed to present a comprehensive overview of the relevant literature related to a general view of Lithuania health care, primary health care nurses' occupational stress at individual and team level, organizational culture, climate and morale in primary health care, and how nurses' occupational stress is connected with organizational culture, climate and morale in the primary health care setting.

Firstly, the literature search investigated the experienced stress of primary health care nurses at individual and team levels. Secondly, a search was conducted targeting organizational culture, organizational climate and morale in different primary health care teams. This summary text presents an overview of the studies which offer a connection between nurses experienced stress and organizational culture and climate in primary health care teams.

The literature was retrieved from the EBSCOhost, Cinahl, Medline and PubMed databases by way of systematic and manual search strategies. For each article featured in this dissertation, the literature search was done based on the keywords. The database search was carried out through several phases with different combinations of keywords, such as: 'nurses stress', 'nurses occupational stress', 'primary health care', 'nurses team', 'primary health care team', 'community nurse*', 'organizational context', 'organizational culture', 'organizational climate', 'morale'. Articles were selected, firstly based on their titles, then their abstracts and full texts. Using a range of different databases, the searches were limited to the most recent literature (10 years), full text availability, and being published in the English language. When a deeper investigation of key concepts was required, older literature sources were used.

Most of literature reviewed in this summary employs descriptive and cross-sectional quantitative research methods, although a certain amount of qualitative research methods (case studies, grounded theory) and literature review studies also feature. The literature concerning work stress was investigated only from a Health Sciences (Nursing) perspective, but organizational culture, climate and morale were investigated from both Health Sciences (Nursing) and Social Sciences (Sociology) perspectives, so as to give a more comprehensive view of the topic. Additionally,

manual searches concerning the current Lithuanian health care situation were undertaken using the most recent webpages of The World Health Organization, and also the Ministry of Health of The Republic of Lithuania.

2.1   Health care in Lithuania

After Lithuania gained independence in 1990, the reform of health care has brought important changes to the Lithuanian health care system. With a focus on increasing the efficiency of health services, Lithuanian health care was both restructured and decentralized (Jakušovaitė et al., 2005). The decentralization of the health care system was achieved by segregating the primary, secondary and tertiary health care levels. The development and reformation of primary health care was seen as a key factor in the overall process of health care reform (World Health Organization, 2000). The Primary Health Care Development Strategy created in 1995 focused on strengthening and expanding general practitioners services, decentralizing primary care, strengthening inter-professional collaboration, and improving prevention services (Murauskiene et al., 2013; Jaruseviciene et al., 2013). In Lithuania, patients have to register to choose a primary health care center and a general practitioner. If they need special care, in most cases this requires a referral. Since 2002, general practitioners have acted as both gatekeepers and coordinators for health care access (Murauskiene et al., 2013).

The contemporary Lithuanian health care system faces problems such as a low trust in institutions (Bartuškaitė & Butkevičienė, 2013). Jaruseviciene et al. (2013) found that a biomedical approach tends to dominate Lithuanian primary health care, and that primary health care teams do not work collaboratively. Furthermore, the nurses working in primary health care continue to work in a traditional hierarchical relationship with general practitioners. Inherently, a paternalistic approach towards patients by staff has been identified, together with difficulties in inter-professional interaction, and these have been found to pose a major problem for the Lithuanian health care sector (Bankauskiene & Jakusovaite, 2006).

According to data from the Health Information Centre (2013), the health workforce in Lithuania has decreased by approximately 18%, from 65 000 in 1990 to 47 000 in 2010, mostly featuring a large decrease in nursing staff. Some studies on migration show that between 2004 and 2010, about 3% of the country's health professionals left the country. Additionally, an ageing health care professional workforce has been seen as presenting a future challenge for Lithuanian health care

(Murauskiene et al., 2013), and the median age of general practitioners was recently recorded as 49.6 years and nurses 45.3 years (Lithuanian Health Programme 2014-2025).

There are six Universities of Applied Sciences and two Universities which have degree programs in nursing, producing around 500 graduates each year (Hygiene Institute of Health Information Center, 2016). Nursing education was improved in-line with the requirements of EU directives. Murauskiene et al. (2013) highlight that the curricula of nursing programs now places a greater emphasis on health promotion activities and community care. Also, nurses are increasingly promoted as being semi-independent health professionals (Murauskiene et al., 2013).

To strengthen the quality of primary health care services, it is important to have motivated health care professionals and a good system of organizing primary health care. Subsequently, improvements in the organization of primary health care and close collaboration between primary health care professionals and other health care professionals are mentioned as key focal areas tasks for developing the future of Lithuanian primary health care (Lithuanian Health Programme 2014-2025).

2.2   Nurses working in primary health care

Nurses are members of multidisciplinary primary health care teams. Similar to other team members, nurses have autonomy in solving certain nursing-related problems of their clients. There are wide variations in the experiences and autonomy found amongst primary health care nurses (Macdonald et al., 2008; Kennedy et al., 2014). Primary health care nurses have a responsibility to deliver health care and meet the needs of individuals, families and communities. Health care progress has improved the health outcomes of individuals and prolonged their life expectancy. As a result, we have an increasing number of people with chronic health conditions in the community (Jackson et al., 2012).

Primary health care is considered as being the base structure of many healthcare systems (Sanchez-Piedra et al., 2014). Internationally, primary care is recognized as the most effective way to provide health services because it allows high quality, and services are easily accessible and provided in time (World Health Organization, 2008). Also, the development of primary care has showed positive outcomes with regards to targeting individual and population health needs (World Health Organization, 2008).

Strong primary health care systems have been correlated to better health outcomes (Sanchez-Piedra et al., 2014). According to Schäfer (2011; 2013), the four main features of primary health care are: (1) first contact access to primary care facilities and health care professionals; (2) person-focused, not disease focused, care over time; (3) complexity of the services available and provided within primary health care; (4) coordination of services when they are needed elsewhere. Different configurations of primary health care systems can be found in different European countries. Also, the services which are provided may differ because of the historical issues that influence individual countries, together with differing social, economic and cultural factors (Sanchez-Piedra et al., 2014). In primary health care, nursing practice is typically team based. Dyer (1984) described teams as social entities composed of members with high task interdependency, and shared and valued common goals. Teamwork has been explained as a dynamic process involving two or more health professionals who have complementary backgrounds and skills, who share common health goals, and who work jointly to make every physical and mental effort to effectively assess, plan and evaluate patient-centered care (Xyrichis & Ream, 2008). Numerous studies highlight that team working in health services helps ensure the highest quality and effectiveness of health care for clients (Sheng et al., 2010). Furthermore, researchers also suggest that a team requires communication and unity within the team to function well (Carney, 2009; Sheng et al., 2010). Some factors have been identified which may facilitate or interfere teamwork. These may be categorized into four areas: (1) organization/leadership; (2) team relationships; (3) process/support; and (4) physical environment (Al Sayah et al., 2014).

Team working has become an integral part of the primary health care setting. Primary care teams can vary between countries in both size and structure. The core team usually consists of the general practitioner and a nurse. Multidisciplinary teams may also feature, comprising of up to 30 professionals including community nurses, midwives, feldshers (doctor's assistants), dentists, physiotherapists, social workers, psychiatrists, speech therapists, dietitians, pharmacists, administrative staff and managers (World Health Organization, 2003).

The team usually consists of family physicians and primary health care nurses, supported by healthcare professionals. Primary health care nurses are cited as key players within family medicine practices teams. The nurses main role in the management of patients with chronic diseases has also been recognized (Al Sayah et al., 2014).

It has been mentioned that nurses are becoming more important as providers of primary health care. International studies have shown that primary health care nurses can provide effective care and achieve positive health outcomes for patients, similar to that provided by physicians. They also can achieve a good level of patient compliance (Parker et al., 2012).

Primary health care nurses in different countries have distinct titles as district nurses, community nurses, or health visitors. District nurses mostly provide care for people in their homes or in residential care homes. They provide an increasingly complex level of care for patients and their families. An important role of district nurses is that of educators, which is performed by teaching and supporting patients and their families to care for themselves (Scott, 2013). Community nurses work closely with patients in the community to provide, plan and organize their care. The main focus of their work is on community members with serious long term or complex conditions (Giltenane et al., 2016). Health visitors are mostly registered nurses or in some countries midwives. This role involves health promotion, public health and working in the community with goal of helping families and young children (Christie & Bunting, 2011).

Research from different countries has considered the number of roles primary health care nurses performed. Al Sayah et al. (2014) identified nine roles of Canadian primary health care nurses: (1) coordination of patient care; (2) assessment and identification of patient's needs; (3) education of patients on various health-related topics; (4) patient advocacy in interdisciplinary team; (5) serving as a primary point of contact for patients; (6) navigation within the clinic and primary health care setting; (7) coordination of patient care among team members; (8) leadership of the interdisciplinary team involving the overall management of patient care and organization of care services among team members; (9) facilitation of communication among team members.

Lithuanian primary health care nurses changed their district nurses titles to community nurses after the instigation of primary health reform in 1995, but the content of their role changed very little. In this setting, the primary health care team usually includes general practitioners, community nurses, administrative employees and social workers (Jaruseviciene et al., 2013).

2.3 Nurses' experienced stress

Nursing is regarded as a risk profession with high levels of stress and burnout (Josefsson, 2012; Lim et al., 2010; Ulrich et al., 2010). The current healthcare environment is demanding for nurses, especially when there is a lack of staff to meet patients' multifaceted needs (Ulrich et al., 2010). Contributory to these high degrees of stress is the fact that nurses confront suffering, grief and death on a daily basis. In looking at how nursing tasks may be perceived, most nursing tasks are mundane and unrewarding. However, some are distasteful or disgusting, some may be seen as degrading, whilst others are simply frightening (Riahi, 2011).

2.3.1 Definitions of stress and occupational stress

The term 'stress' is commonly used in the contemporary vocabulary of individuals. Its meaning understandably differs in multiple usages and references (Riahi, 2011). Several concepts such as occupational stress, job stress, work stress or work-related stress have been used in previous studies to analyze the practice of nursing. In this study, we use the concept of nurses experienced stress. Some definitions of stress and occupational stress are presented in Table 1.

Table 1. Definitions of stress and occupational stress

Source	Definition
Stress	
Lazarus,1966, p. 2	"Stress, as a universal human and animal phenomenon, results in an intense and distressing experience and appears to be of tremendous influence in behavior".
Selye, 1976	A strain on living organisms.
Theorell, 2000	A non-specific reaction, not something negative *per se.*
Augusto-Landa et al., 2008	Physiological, emotional, and behavioral changes that occur when dealing with stressful situations.
Occupational stress	
McLean, 1974	A reaction to stressful situations at work that lead to a physiological response manifested by psychosomatic symptoms such as hypertension, headache, coronary artery disease, and peptic ulcer.
Muscroft and Hicks, 1998	A complex phenomenon which results from an interaction between individuals and their work environment, local forces, pressures and culture that requires customized interventions.
US Department of Health and Human Service, 1999	Harmful physical and emotional responses that occur when the requirements of a job do not match the capabilities, resources or needs of the workers and can lead to poor health and even injury.
Clegg, 2001, p. 102	"Any force that pushes a psychological or physical factor beyond its range of ability, producing strain within an individual".
Lambert, Lambert, and Ito, 2004	Individuals' experiences of incongruency between the perceived characteristics of specific roles and what is actually occurring within those roles.
Leka, Hassard and Yanagida, 2012	Harmful emotional and somatic response when the person's skills and resources cannot satisfy the requirement of the task.

The concept of stress by Selye (1976) has been used to describe stress reactions and the body's mobilization when we are faced with a challenge or threat (Olofsson et al., 2003). Hans Selye developed the theory of General Adaptation Syndrome. Whilst discussing the concept of stress and bodily responses, he also stated that the nursing is one of the most stressful professions (Riahi, 2011). The stress is defined as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p.19).

According to Lazarus and Folkman (1984), stress is experienced when situations are appraised as exceeding one's resources. This has a relation with an individual's perception of the demands placed on them, and their perceived capability to meet those demands.

Herbert in 1997 defined stress as referring to any physical or psychological demand which is over the norm, and that signals the distinction between what is optimal and what really exists, and is often conceptualized in terms of stressors and strains (Hamaideh & Ammouri, 2011). According to Clancy and McVicar (2002), an inadequacy between demands and an individual's capabilities means that their stress threshold is likely to be exceeded, and will result in a stress response. Consistent with this idea, there are a number of nursing models which conceptualize stress as an 'imbalance' (Riahi, 2011).

Occupational stress has been defined by Clegg (2001) as being "any force that pushes a psychological or physical factor beyond its range of ability, producing strain within an individual" (p. 102). According to Clegg (2001), occupational stress may be described by different theoretical models. Numerous studies of occupational stress have adopted various theoretical approaches. Wu et al. (2013) have described two of these approaches: the job demand-control-support (JDC) model created by Karasek and Theorell (1990) and the effort-reward-imbalance (ERI) model suggested by Siegrist (1996). The JDC model is one of leading work stress models, explaining that the source of job stress comes from psychological job demands, job control and social interactions (Tsai & Chan, 2010). According to Josefsson (2012), this model helps in understanding the connection between the work organization, and employees' experienced stress and health. The ERI model defines the non-reciprocal social exchange between costs and gains at work, and also commitment, and which causes a state of emotional distress and can negatively influence health outcomes. Both these models complement each other, and whilst the JDC model is oriented to the task characteristics and social aspects of the workplace, the ERI model focuses on stressful experiences and the personal cognitive pattern of dealing with work (Wu et al., 2013).

Olofsson et al. (2003) highlight the factors which promote negative stress in the work environment. These include the employees' lack of confidence in their ability to deal with work demands, a lack of personal control (originally cited by Karasek 1979), and also social support. Especially, a perception of low support is experienced if a worker's competence and experience are not noticed and respected, or when supervisors do not offer support and feedback (Olofsson et al., 2003).

Occupational stress in nursing is of global concern (Ward, 2011; Happell et al., 2013), and nursing researchers have investigated occupational stress and stressors in various nursing specialty areas (Happell et al., 2013).

2.3.2   Nurses' job stressors

Nurses' job stressors can be addressed in five major areas: definitions of stress and job stressors, perceptions of stress and stressors, sources and types of job stressors, the effect of job stressors on nurses, and the variation of nurses' job stressors in different practice settings (Hamaideh & Ammouri, 2011).

Stressors have been described as the relationship between stressful aspects of a job (Spector & Jex, 1998). The perception of stressors depends upon the working environment and the type of job. According to Opie et al. (2011) researchers have found that perceptions of stressors and also the experiences of occupational stress differ between various nursing specialties. For example, it was shown that nurses working in remote regions suffer from high levels of occupational stress.

Numerous studies have revealed that the job demands of nurses can increase the perception of job stressors (Hamaideh & Ammouri, 2011). Six main stressors of nurses in adult and child care, based on a literature review were identified: (1) workload/inadequate staff cover/time pressure; (2) relationships with other clinical staff; (3) leadership and management style/poor locus of control/poor group cohesion/lack of adequate supervisory support; (4) coping with emotional needs of patients and their families/ poor patient diagnosis/death and dying; (5) shift working; and (6) a lack of reward. (Happell et al., 2013). There is a considerable amount of knowledge about nurses experienced stressors and how these have changed over time. Concretely, shift working and a lack of reward have been reported to cause more sources of stress (Happell et al., 2013). The stressors found in nursing have also been confirmed by other researchers. French et al. (2000) determined the following job stressors: dealing with death and dying patients, conflict with physicians, inadequate preparation, problems with peers, problems with supervisor, discrimination, workload, uncertainty concerning treatment, dealing with patients and their families. Other stressors include inadequate staffing, poor benefits or poor pay, no opportunity for advancement, working with incompetent nurses, unsupportive leadership personnel, professional conflict (Hamaideh & Ammouri, 2011), shortage of nurses (Janiszewski, 2003), , age and work experience, mood disturbances and the emotional demands of caring

(Finlayson et al., 2002; Huntington et al., 2008). Furthermore, Mäkinen et al. (2003) and Hamaideh et al. (2008) indicated that job stressors were related to models which were used to organize nurses' work.

The results of a systematic review by Lim et al. (2010) revealed that the most common stressors among Australian nurses were heavy workloads work environment, conflicts between colleagues, working with inadequately prepared or inexperienced staff, aggressive patients and relatives, role ambiguity and shift work.

Also, according to Lazarus and Folkman (1984), work characteristics have been seen as environmental stressors, whereas an individual's personal characteristics facilitate their ability to conduct an appraisal of the stressors. Lambert and Lambert (2001) reviewed the literature on nurses' job stressors in 17 countries, and because most of these studies have been carried out in the US and UK, they recommended that more studies be conducted in other countries. They also suggested investigating the differences in job stressors among nurses working in different clinical fields (Hamaideh & Ammouri, 2011). In studies outside of this main body, Hamaideh et al. (2008) found that there were a lot of factors related with Jordanian nurses' job stressors, such as the availability of social support, shift work, nurses' educational background, and the model of nursing care provision.

Research studies have shown that nurses working in intensive care units, emergency rooms, operating rooms, psychiatric units and other highly stressful areas experience higher levels of job stress (Hamaideh & Ammouri, 2011). Fewer studies are to be found on nurses employed in primary health care settings, but it was identified that primary health care nurses experienced a low-to-moderate frequency of stress in their work. Workload, conflicts with physicians, and conflicts with other nurses were found as the major sources of stress for primary health care nurses. To a lesser extent of inadequate preparation, a lack of support, facing death and dying, and an uncertainty concerning treatment were also reported as stressors for primary health care nurses (Lee, 2003; Opie et al., 2010). In the study conducted by Mikutaviciene and Merkys (2010) in Lithuania, stress was identified to be more intensive among primary health care nurses, and related to external macro-factors and not to the working environment. Malinauskiene et al. (2009) found that job strain and low social support at work were the strongest risk factors for mental distress among Lithuanian community nurses.

Therefore it is important for healthcare administrators to better understand the local stressors which are present, before embarking on change-related initiatives. Also, it is seen as helpful to create and implement programs which look to reduce nurse stress (Happell, 2013).

2.3.3　Nurses' experienced stress at individual and team level

Nurses' experienced stress has been studied quite widely (Chen et al., 2009; Admi & Moshe-Eilon, 2010; Al-Makhaita et al., 2014). Mostly it has focused on individual experiences, and seldom at the team level. Tucker et al. (2013) investigated stress in 23 workgroups. The results of this study showed that the stressor-strain relationship was moderated by both individual and team level factors.

High levels of occupational stress have been reported in different health and community service professions, including nursing (Opie et al., 2011; Josefsson, 2012; Trybou et. al., 2014). Some factors have been associated with nurses' experiences of occupational stress. It has been found that nurses experiences of stress can differ between countries (Evans, 2002; Happell et al, 2013), between jurisdictions within the same country, and between urban and rural areas (Happell et al., 2013).

Most of the earlier studies have focused on nurses and health care professionals working in hospitals (e.g. AbuAlRub et al., 2009; Purcell e. al., 2011; Hamaideh & Ammouri, 2011; Nabirye et al., 2011; Fiabane et al., 2012; Van Bogaert et al., 2014). In particular, the job stress of nurses working in intensive care (DeKeyser Ganz, 2012; Happel et al., 2013), psychiatric hospitals (Leka et al., 2012; Mathew et al., 2013; Qi et al., 2014), and other specialized care units has been widely studied (Milutinovic et al., 2012; Sveinsdottir & Blondal, 2014)). Only a few studies of nurses' work stress have been conducted in Lithuania and they address intensive care (Kriukelyte et al., 2005), elderly care (Glumbakaite et al., 2007) and surgery (Vimantaite & Seskevicius, 2006). Also, a few studies can be found on primary health care in Lithuania. In particular, Mikutaviciene and Merkys (2010) have studied work-related stress in hospital and primary health care nurses.

Some background factors have been found to correlate with nurses' stress. Finlayson et al. (2002), Huntington et al. (2008) and Sakano et al. (2012) have mentioned that age and experience may be a sources of stress. Other background factors have been found to correlate (or associated) with stress, especially those of education and gender. Junior nurses with a short work experience have been reported more job related stress than senior nurses (Lee, 2003). Milutinovic et al., (2012) found that nurses aged 30–39 years have been seen to experience higher stress levels through problems with colleagues and supervisors than either younger or older co-workers. Also, younger public health nurses with a shorter length of work experience and higher level of education have named experience higher levels of occupational stress (Nabirye et al., 2011). According to Seibt et al. (2008)

workers with a higher level of education have been seen to be better able to maintain a better working ability in occupations with a high level of psychological stress. Furthermore nurses' stressors were found correlate significantly and positively with level of education, shift work and the model of nursing provision (Hamaideh & Ammouri, 2011). Nurses with a lower level of education have been seen to experience more stress concerned discrimination and problems with supervisors (Milutinovic et al., 2012).

Differences in the experiences of stress between genders have also been studied, and it has been found that females tended to experience higher levels of job-related stress than males (McGilton et al., 2007).

In recent decades we have experienced challenging situations such as aging populations, the rapid evolution of new medical technologies, and higher degrees of higher patient expectation. All of these challenges have caused a remarkable increase in nursing job demands (Simoens et al., 2005, Trybou et al., 2014). Cioffi et al. (2010) identified that in community nurses caring for clients with chronic conditions, teamwork can be studied in relation to three categories: shared purpose, working in a team, and tensions within a team. According to Rushmore (2005), nurses are prepared to collaborate in teamwork. Team working requires good communication skills and a clear understanding of the roles of members in the team. In some cases, this collaboration might mean that nurses experience a lack of support. Hagglund (2010) found that district nurses are not ready to start nurse-led clinics because of a perceived lack of authority, and also a lack of collaborative teamwork.

There are some team associated factors found to be related with stress, such as the presence of a team climate, having supportive colleagues, and providing support for innovation. Nurses' well-being has been related with lower levels of stress reactions. Although working with supportive colleagues is helpful, it has also been noted that dealing with the stressors that arise in today's health care environments can take a long time (Dackert, 2010). Laschinger (2010) found that a work environment that encourages respectful interactions between team members is supportive for sustaining high quality care and retaining nurses. Kuusio et al. (2013) identified that one of the reasons named by primary care physicians for a higher intention to leave their work has been the stresses which relate to teamwork.

There is a lack of information regarding work related stress among nurses, especially in primary health care settings. However, we should be careful when using the results of studies performed in different clinical settings to explain primary health care nurses' experienced stress, because of the different nature of the work and also differences in the approach to patient care. Internationally we

have witnessed an increasing trend towards home and outpatient care, and increasing numbers of patients with multiple health problems are being cared for in the community. Thus, there is a need to study the topic of stress in primary health care, as nurses are anticipated as being increasingly employed in this sector in the future.

2.3.4   Consequences of nurses' stress

Occupational stress among nurses is important to recognize because it can have a significant impact on nurses' physical and psychological health, the health-care organizations they work in, and also the general community (Happell et al., 2013). There is evidence that perceived effort-reword imbalances can result in an increased rate of heart disease, high-blood pressure, chronic pain and other somatic disturbance (Lambert & Lambert, 2008; Ulrich et al., 2010). It has been shown that the high level of work stress experienced by nurses has been caused feelings of inadequacy, lowered self-esteem, irritability, sleep disorders, burnout (Ulrich et al., 2010; Hamaideh & Ammouri, 2011), and also psychological distress (Sakano et al., 2012). Furthermore, prolonged stress and burnout among hospital nurses has been seen to have an effect on patient satisfaction and care outcomes (Sveinsdottir et al., 2006). Occupational stress may negatively affect nurses' attitudes, their morale, communication, cognition, and the quality of care they offer (Coomber & Barriball, 2007). Also, it may influence whether they function at an optimal level of effectiveness (Happell et al., 2003). Nurses experienced stress has been seen to affect nurses' well-being, their work satisfaction (Riahi, 2011) and the general organizational well-being (Fiabane et al., 2012). According to Happell et al. (2013), the consequences of nurses' stress at an organizational level include staff turnover, significant levels of staff intending to leave (Lim et al., 2010), and absenteeism (Lambert & Lambert, 2008; Davey et al., 2009).

There are positive and negative consequences associated with how teams work together. Collaborative primary care teams are stated as a key component of health care initiatives, especially for chronic illness prevention and management (Mundt et al., 2016). Moreover, relationships within a team may have great importance to the development of trust between team members performing various roles, and their ability to deal with complex tasks. Also, good communication may help for better team climate. It has been found that teams which are more highly interconnected through timely communication may be better able to meet the diverse needs of patients with diabetes (Mundt et al., 2016).

During recent years, there has been increased focus on reducing the level of occupational stress in nursing (Happell et al., 2013). Landy and Conte (2010) suggest conceptualizing workplace stress management interventions, and to group them into primary, secondary and tertiary prevention strategies. The aim of primary prevention strategies is to modify or eliminate stressors. Secondary strategies target responses to unavoidable stressors, and tertiary strategies promote healing from the negative effects of stressors. Primary and secondary strategies which focus on limiting the experience of stress are preferred over tertiary strategies. This form of workplace stress management intervention framework could also be useful for reflecting on strategies that nurses suggest as being potentially helpful (Happell, 2013).

The study results of Richardson and Rothstein (2008) show that occupational stress can be reduced by minimizing work-related stress in health-care organizations. Happell et al. (2013) suggested a reduction of occupational stress by understanding the stressors which are present in health-care environments and the ways in which they may be reduced.

Organizational support and perceived social support were found to be associated with decreased occupational stress (Nabirye, 2011). Furthermore, social support and the support perceived by the individual and team from the organization is an important factor associated with occupational stress. It has also been considered that the organization may have a central role in reducing undue job demands. In this, its role is to offer adequate equipment and staff, and to promote policies that support work performance. Understanding the perception of social and organizational support among nurses will help stakeholders to create programs that enhance job satisfaction (Nabirye, 2011). It is important to use of effective coping strategies and maintaining supportive social relationships to reduce the negative consequences of occupational stress (Lim et al., 2010).

2.4   Organizational social context

The organizational social context consists of three dimensions: organizational culture, climate, and morale (work attitudes) (Table 2). Organizational culture and climate are concepts central to the social context in the organization. They represent the non-visible issues of the organization which are common to the group of workers, whilst morale represents an individual phenomenon (Glisson et al., 2012).

Table 2. Definitions of organizational culture, organizational climate and morale

Author	Definition
Organizational culture	
Siehl and Martin, 1983	Normative glue and a set of values, social ideals or beliefs that organization members share.
Hofstede et al., 1990	Cultures manifest themselves, from superficial to deep, in symbols, heroes, rituals, and values. Organizational cultures differ mainly at the levels of symbols, heroes and rituals, together labeled as 'practices'.
Schein, 1991	A pattern of shared basic assumptions, invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration that has worked well enough to be considered valid, and, therefore, is to be taught to new members of the group as the correct way to perceive, think, and feel in relation to reframing these problems.
Verbeke et al., 1998	The way things are done in an organizational unit. An organizational-level construct assessed as the behavioral expectations that members of an organization are required to meet in their work environment.
Alvesson, 2002	Culture is regarded as a more or less cohesive system of meanings and symbols, in terms of which social interaction takes place. Social structure is regarded as the behavioral patterns which the social interaction itself gives rise to.
Glisson and James, 2002	The organizational norms and how things are expected to be done within an organization.
Organizational climate	
Tagiuri and Litwin, 1968, p. 25	"The relatively enduring organizational environment that (a) is experienced by the occupants, (b) influences their behavior, and (c) can be described in terms of the values of a particular set of characteristics or attributes of the environment".
James and James, 1989	The employees' shared perceptions of the work environment on their personal welfare.
Verbeke et al., 1998	The way people perceive their work environment.
Morale (work attitudes)	
Glisson and Durick, 1988	Morale (work attitudes) includes job satisfaction and organizational commitment.

The concepts of organizational culture and climate have been discussed in organizational research literature for several decades. Both qualitative and quantitative research methods have been used (Denison, 1996). Organizational culture and climate have a remarkable history in the organizational research

literature (Verbeke et al., 1998; Glisson & James, 2002; Carr et al. 2003; James et al., 2008). Numerous descriptions of organizational culture (54) and of organizational climate (32) were identified in the literature about organizational culture and climate (Verbeke et al., 1998), especially revealing the main distinctions between these two concepts. Culture was described as the way things are done in an organization, and climate as the way that people perceive their work environment (Glisson et al., 2014). In this study, the conceptual definitions of organizational culture and climate proposed by Glisson et al. (2012) were used as they were seen as relevant in regard to the organization and team levels being examined, however we may also consider teams using other definitions like micro-culture and idio-culture. Micro-culture is a distinctive culture shared by a small group and "…emphasises the social nature of places and summarises the processes of members as they are engaged in everyday practices that develop habits and traditions, that is cultural features that will, over time, influence them towards certain behavior" (Roxa & Mårtensson, 2015, p. 194). Alternatively, idio-culture also focuses on the level of small groups and is defined as "a system of knowledge, beliefs, behaviors, and customs…" and is referred to as a means of sustaining interaction and generating common understanding (Fine, 1979, p. 734).

Work attitudes (morale), as component of the social context, are mostly evaluated as in relation to job satisfaction and as an individual employees commitment to the organization. Job satisfaction and organizational commitment have been studied over several decades and an agreement exists that these two concepts are different but related individual-level constructs (Glisson et al., 2014).

Glisson and James (2002) fixed four important aspects: they provided a description of culture and climate which distinguished between the two concepts; they proved the uniqueness of culture and climate and proved that culture and climate are 'shared' within work at team-level and they may vary between work teams; and they found that cross-level relationships linked to team-level organizational culture, while climate linked to individual-level work attitudes, service quality and turnover. According to Glisson and James (2002) and Rostila et al. (2011), organizational culture and climate may be looked not only at an organizational level, but also at a team level.

2.4.1   Organizational culture

Organizational culture is one of three dimensions of the organizational social context. The concept of 'culture' in literature is described as the way things are done in an organization (Verbeke et al., 1998; Glisson et al., 2014). By describing culture as the way things are done in an organization, culture is understandable as a property of the organization (Glisson & James, 2002).

Thus, culture involves expectations and values which are expressed in the behavior of fellow workers, and help to socialize members of the organization who may seek to behave in ways that meet the expectations of their workplace (Aarons, 2012).

Organizational culture has been described as a layered construct (Glisson, 2002), consisting of an outer and inner layer. Earlier work by Rousseau (1990) suggested that the outer layer is represented by shared behavioral expectations and norms, whilst the inner layer is represented by values and assumptions. Hofstede (1998) has described behavior as being the visible part of a culture, and values as the invisible part of a culture (Glisson & James 2002).

Culture has been described as being a 'deeper' construct than climate since it involves values and assumptions. However, researchers have noticed that is not very clear what 'deeper' means in an organizational sense, as values and assumptions are individuals constructs. Other researchers have highlighted that values and assumptions cannot be observed directly, and can only be derived indirectly from the behavior and statements of individuals in an organization (Glisson & James, 2002).

It is important to understand the inner layer of culture, but the 'visible' aspects are also very important for the existence of an organization. In Hofstede's view (1998), culture is mostly expressed and transmitted among employees through their shared behavioral expectations and normative beliefs, rather than through 'deeper' values or assumptions. Rousseau (1990) named the inner layer of values and assumptions as the conscious layer, but Hemmelgarn et al. (2001) noticed that individuals in an organization can be informed or submissive with regard to their behavioral expectations without being conscious. This can be explained by the view that shared expectations and norms may reflect the values and assumptions of organizational leaders (Glisson & James, 2002). Again these shared expectations and norms may be determined by the conditions and realities that workers face every day, and accordingly to the values and assumptions of top management. Regardless however, it is the expectations and norms that are shared, and not

necessarily the assumptions and values that individuals reflect. Assumptions and values are formed from the shared expectations and norms that give meaning to the dimensions of culture, and this may also explain their influence on the work environment (Glisson & James, 2002).

There are numerous frameworks of organizational culture. Most cited is the framework of Schein (1992) which distinguishes three fundamental levels of culture that are represented as (1) observable artefacts, (2) values, and (3) basic underlying assumptions. Observable artefacts are described as the most accessible elements of culture, and they are tangible or visible aspects of culture. Values are the clearly articulated norms, social principles and ideologies important within an organization. Assumptions are described as the core elements of culture which provide expectations that influence perceptions, thoughts and feelings about an organization (Scott-Findlay & Estabrooks, 2006).

The number of studies on organizational culture and its effect on individual and organizational outcomes has increased during the last decade. Researchers have found that culture has been associated with a multiplicity of outcome criteria, such as service quality, innovation, employee work attitudes, organizational growth, and performance (Glisson & Williams, 2015). The summary of literature analysis about organizational culture shows that culture-based behavioral norms and expectations within an organization guide individual behavior, and a variation between an organizations' norms and expectations can explain differences in organizational innovation, performance and outcomes (Glisson & Williams, 2015). Del Bueno and Vincent (1986) were the first researchers to use the term 'organizational culture' in the nursing context.

2.4.2 Organizational climate

Organizational climate is the perceptions and exclusive property of the individual worker (Glisson & James, 2002; Schneider et al., 2011). The concept of 'climate' in literature is described as the way people perceive their work environment (Verbeke et al., 1998; Glisson et al., 2014). Moreover, climate has been defined as mediating the effect of organizational culture on individual level work attitudes and behavior (Glisson & Williams, 2015). Whether or not individuals agree or disagree on the climate remains a property of the individuals. However, the perceptions that employees share in their workplace represent a common agreement of the meaning and significance of their work (Glisson, 2015). The perceived impact of the work

environment on each individual's personal well-being has been referred to as the psychological climate. This is formed when individuals from the same work environment agree a perception of the psychological impact of their work environment, and their shared perceptions define the organizational climate of that particular work environment (Glisson & Williams, 2015).

Organizational climate is based on psychological climate (James et al., 1990). The psychological climate in human services seems to be relevant with such dimensions as emotional exhaustion, depersonalization, personal accomplishment, growth and advancement, fairness, role clarity, role conflict, role overload and cooperation (Glisson, 2007). Furthermore, psychological climate is to some extent socially influenced by the collective social construction of acquired meanings of the work environment, which in-turn lead to the accommodation of one's interpretive standards. This is likely to occur in cases when new ambiguous events are met, and a need for discussing them arises (Hemmelgarn, 2006).

Organizational climate at individual level of work performance has a relation with staff psychological well-being, job satisfaction, withdrawal, staff turnover, organizational commitment and motivation, and also at an organizational level with innovation and productivity (Schneider et al., 2011; Glisson & Williams, 2015). Research carried out in mental health and social services agencies has found that organizational climate influences the quality of service, treatment planning decisions, clinician attitudes towards evidence based treatments, staff turnover, and youth mental health outcomes (Glisson, 2007; Glisson & Williams, 2015).

The organizational schemes of primary care settings and hospitals are different, therefore they create a different kind of organizational climate. Also different are the structures, processes, decision making and relationships between team members in primary care sites and hospital settings. The differentiation of organizational climates in primary health care is named as an important aspect (Poghosyan et al., 2013).

In primary care settings, the organizational climate for nurses may be defined as a set of organizational characteristics which are perceived by nurses about their practice setting, and which appears from the way the organization interacts with its nurses (Poghosyan et al., 2013). This climate has been seen to have an influence on nurses behaviors and outcomes (Opie et al., 2010).

2.4.3　Morale

Morale has been identified as a factor which affects nurses' performance. A supportive environment which consists of supportive supervision, positive feedback and good communication has been viewed as being conducive to the maintenance of nurses' morale. Also, positive job satisfaction and nurses' perceptions may lead to improved work place efficiency and output (Nabirye et al., 2011).

In this study, morale (work attitudes) may be seen to consist of an employee's commitment to the organization and satisfaction with their job. There are differences between job satisfaction and organizational commitment, but both are related to individual-level constructs (Glisson et al., 2008).

Glisson et al. (2008) described organizational commitment as a strong belief in the organization's goals, a desire to make great efforts for the organization, and also to remain a member of the organization. According to the Meyer and Allen (1991, p. 67) organizational commitment is "the emotional attachment to, identification with, and involvement in, the organization" (Beukes & Botha, 2013). Also, Jacobs and Roodt (2007) saw organizational commitment as the attachment between employees and their organization.

Job satisfaction has been defined as a positive emotional state resulting from an appraisal of one's job tasks (Glisson et al., 2008). Spector (1997, p. 2) defined job satisfaction as "the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs".

It is important to focus on nurses' organizational commitment for the benefit of both the organization and its employees. Researchers have found a correlation between organizational commitment and work engagement in that the more committed nurses are to the organization, the more engaged they will be in their work (Beukes & Botha, 2013). Also, professional commitment and work climate have been found to positively predict nurses' job satisfaction. For example, the better the work climate, the more nurses felt tied with their profession, and the more satisfied they felt with their work (Caricati et al., 2014).

According to Newman et al. (2001), higher levels of nurse job satisfaction are related with an increase of morale and commitment, which in turn makes a nurse stay in their profession. Therefore, nursing managers have to be responsible for building and supporting a work morale that fosters nurses' intentions to stay in a professional work environment (Sveinsdottir & Blondal, 2014).

2.4 Conclusions from the overview of the literature

The literature shows the connection between nurses' experienced stress and organizational culture, climate and morale (work attitude). Nurses' job-related stress is an individual concept and correlates with work morale and organizational climate. Team level stress has a connection with organizational culture and climate (Figure 1).

The intensity of job stress depends upon the working area. Nurses working in intensive care units, operating rooms, emergency care and psychiatric care units experience a higher level of job-related stress. Primary health care nurses have been mostly shown to experience low-to-moderate frequencies of job-related stress.

Researchers have found a correlation between the intensity of stress and individual background factors. Primary health care nurses experienced stress at an individual level correlated with the nurse's age, length of work experience, education, gender. Younger nurses reported more job-related stress than older nurses. A shorter length of work experience has been correlated with a higher level of stress. Also, female nurses report higher levels of job-related stress.

Stress among primary health care nurses is experienced at both individual and team level. Increasing job demands (resulting from a growing aging population, the rapid evolution of medical technologies, and higher patient expectations) may cause highly stressed teams to be seen in primary health care. Related to this, nurses need good communication skills and an understanding of the roles of other team members. A lack of collaborative teamwork can be a source of nurses' job-related stress, and a team climate has been found to provide support for work-related innovation and have a positive impact on staff well-being. Nurses' well-being was found to be associated with lower levels of stress reactions.

The organizational social context of primary health care is important for nurses' experienced stress, and also for patient outcomes. Organizational culture is a team construct, and organizational climate and work morale are individual level constructs. Collaborative primary health care teams are very important in the prevention and management of chronic health problems and disease. Good team communication may help to develop trust among team members performing distinct roles, and also provide them with the ability to deal with complex tasks. Also, better communication is related to a better team climate, which is an important component of quality of care provision.

Stress

Organizational social
context

Individual level

Morale

Organizational climate

Team level

Organizational culture

Demographic factors
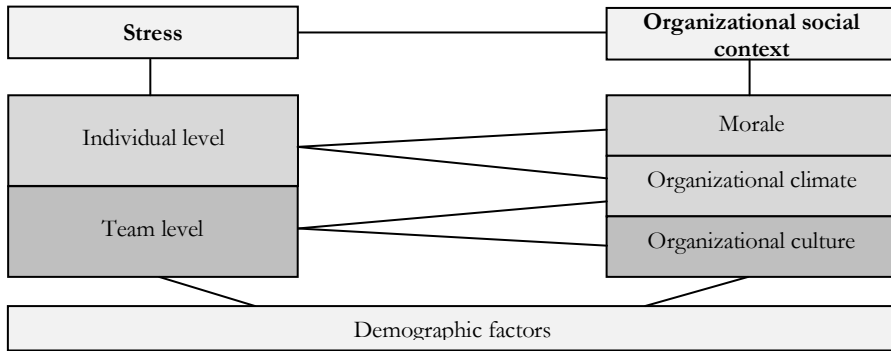
Figure 1. Connections between stress and the organizational social context

3   The purpose and research questions of the study

The purpose of this study was to describe and evaluate nurses experienced stress, and its connections with the social context in the primary health care. Its main goal was to search for knowledge that would help to develop organizational culture and climate, and knowledge that could to be used to decrease nurses' stress.

The following research questions were addressed:

1. What kind of stress do primary health care nurses experience? (Article I, II)
    1.1. What kind of stress do primary health care nurses experience at an individual level? (Article I)
    1.2. What kind of stress do teams of primary health care nurses experience? (Article II).
2. What kind of social context (organizational culture, climate and morale) is prevalent in primary health care centers? (Article III)
3. How is nurses experienced stress associated with the organizational culture and climate in primary health care teams? (Article IV)

4   Materials and methods

This chapter describes the design and setting of the study. It also describes its approaches to sampling and participant selection, the instruments used, methods of data collection and analysis, and the ethical aspects involved.

4.1   Design

The purpose and research questions of the study relate to the description and evaluation of nurses' stress and the organizational culture, climate and morale in primary health care. Overall, nurses' experienced stress and organizational social context has been widely studied by international researchers, and studies in this field have employed a wide range of different quantitative research methods. Mostly of the studies in nurse stress (especially those stemming from western countries) have used previously tested instruments. Earlier researchers suggested that studying culture required qualitative research methods, and studying organizational climate required quantitative methods (Denison, 1996). In recent decades, studies of the organizational culture and climate of health care organizations in USA, Australia and European countries mostly applied quantitative research methods using well tested instruments.

A quantitative descriptive cross-sectional study design using validated instruments was decided as being the most suitable approach for this research. The selection of an instrument was based upon whether they had been widely used, and whether they were seen to be both reliable and valid. The Expanded Nursing Stress Scale (ENSS) (French et al., 2000) was selected to measure nurses' stress. The instrument was developed in Europe and has been widely used internationally. The Organizational Social Context (OSC) measurement system (Glisson & James, 2002) was developed in a Western culture and has been widely used in the USA. Furthermore, Rostila et al. (2011) adapted the instrument and were the first to use it to measure health care institution organizational culture, climate and morale in Europe. The instrument had previously been used in Finland, and as a North European culture geographically close to Lithuania, it was seen as suitable for use in this study. Glisson et al. (2012) have mentioned that the OSC may be used in

the analysis of relationships linking organizational level variables to individual level service outcomes. Additionally, Glisson & James (2002) have suggested that the instrument may also be used to study the relationships of organizational culture and climate and employee outcomes.

4.2 Settings, sampling and participants

The study population (N=1096: nurses 579; physicians 316; others 201) comprised all of the public primary health care professionals of one out of ten purposefully selected county in Lithuania. The healthcare professionals were employed among 18 public primary health care centers.

Sampling was based on teams working in public primary health care centers. These teams usually consist of general practitioners, community nurses, clinical administrative employees and seldom social workers (Jaruseviciene et al., 2013).

All together 187 nurses (32%, all female) responded. Most of nurses (73%) were 41–60 years old. Almost all had graduated from Medical Schools (85%), and the majority (67%) had qualified more than 20 years ago. Majority of the nurses (74%) had a long work experience in health care (21–40 years), and about half (48%) had over 20 years' experience in primary health care. Most of the participants worked with all groups of clients: children, young people, adults, and elderly people (Article I).

When looking at the nurses' teams, respondents were drawn from 29 multi-professional teams in 18 different primary health care centers. The mean age among the nurses' teams was almost 50 years (mean=49.2; range 43.9 – 63.3 years). Nurses work experience in health care was quite long (mean=27.8; range 21.7 – 42.0 years), and the time spent in primary health care varied among teams (mean=20.9; range 10.6 years – 34.5 years). The working time in their present organization also varied among teams (mean-20.2; range 5.6 years – 35.0 years) (Article II).

Of the wider group of primary health care professionals (nurses, physicians, physiotherapists, psychologists, dentists, dental assistants, midwifes), 344 respondents from 29 primary health care teams in 18 different organizations participated (31 % response rate). No social workers participated in this study. In Lithuania, one social worker is employed to cover two or more larger primary health care centers, and most primary health care centers have no social workers at all. The clinical administrative employees are mostly nurses, and form the main

group which participated in the study. The higher level managers were not asked to participate on account of their different role. The number of participants in a team varied from 6–24. A team is considered as a group having a common task and a common space, providing daily social contact among members in the primary health care center environment (Rostila et al., 2011). More than half of the respondents (51.7%) were nurses, and one third were physicians (30.8). The majority (80.7) were over 40 years old and one fifth (18.3) had worked >30 years in the same organization (Article III, Table 1).

4.3   Instruments

Previously validated instruments of the Expanded Nursing Stress Scale (ENSS) (French et al., 2000) and the Organizational Social Context (OSC) measurement system (Glisson & James, 2002) were used in this study. The ENSS instrument was developed from the Nursing Stress Scale of Gray-Toft & Anderson (1981) (Appendix 1). The OSC instrument is not included in the summary as it is copyright protected.

The ENSS with 59 items includes nine subscales: death and dying, conflict with physicians, inadequate preparation, problems with peers, problems with supervisors, workload, uncertainty concerning treatment, patients and their families, and discrimination. A five-point response scale was used (0 = [Does not apply], and 1 = [Never stressful] to 4 = [Extremely stressful]). The ENSS has been internationally shown to be valid and reliable (French et al., 2000). Previous Cronbach's alpha values for the instrument were consistently high at 0.96 (French et al., 2000), 0.82 (McGilton et al., 2007), 0.74 – 0.88 (Por, 2006), and 0.94 (Milutinovic et al., 2012) providing evidence of its internal reliability. In this study, based on factor analysis four items were deleted (Article 1) resulting in a 55 item ENSS questionnaire. The validity and reliability this instrument was also evident, with Cronbach's alphas ranging 0.64 to 0.87. (Table 3).

The Organizational Social Context (OSC) measurement system (Glisson & James, 2002) with 105 items includes three dimensions: organizational culture, organizational climate and morale. Culture was structured as rigidity, proficiency and resistance. Climate was measured by stress, engagement and functionality. Morale consisted of organizational commitment and job satisfaction (Glisson, 2007). A five-point Likert scale was used to assess the dimensions of culture, climate and morale, ranging from 1 (not at all) to 5 (to a very large extent).

The reliability and validity of OSC instrument has been reported in previous studies (e.g. Glisson et al., 2008; Rostila et al., 2011; Viinikainen et al., 2015). Similar values were also found in this study where the Cronbach's alpha values for culture varied 0.86 to 0.94. For climate the values were 0.89 to 0.91 and for morale the value was 0.88.

Table 3. The dimensions, number of items, Cronbach's alpha (α), scales and instruments used in the study

	Dimension (subscales)	Items	α	Scale	Instrument
STRESS	Death and dying	7	0.85	Likert: 0 'Does not apply' and 1 'Never stressful' – 4 'Extremely stressful'	Expanded Nursing Stress Scale (French et al., 2000)
	Conflict with physicians	4	0.64		
	Inadequate preparation	3	0.65		
	Problems with peers	6	0.77		
	Problems with supervisors	7	0.87		
	Workload	8	0.85		
	Uncertainty concerning treatment	9	0.86		
	Patients and their families	8	0.87		
	Discrimination	3	0.64		
SOCIAL CONTEXT	*Culture*	*42*		Likert: 1 'not at all' – 5 'to a very large extent'	The Organizational Social Context (OSC) measurement system (Glisson & James, 2002)
	• Rigidity	14	0.86		
	• Proficiency	15	0.89		
	• Resistance	13	0.94		
	Climate	*46*			
	• Stress	20	0.89		
	• Engagement	11	0.91		
	• Functionality	15	0.89		
	Morale	*17*	0.88		

Additional to the instruments, the questionnaires consisted of items concerning background factors (Appendix 2). The demographic background questions asked were age, gender, education, qualification and year of qualification. Work related questions were the length of work experience in health care, in primary health care, and in the present organization, the respondent's current position in their organization, the clients groups they worked with, and the specialized area in which they worked as a team member.

Both the ENSS and OSC instruments were used in the Lithuanian language, and were back-translated into English by two certified translators (Polit & Beck, 2004; Parahoo, 2006). An expert panel comprising the researcher, the translators and other specialists (a nurse, a psychologist, a social worker, a manager and a teacher of Lithuanian language) confirmed the content validity of both instruments.

The ENSS instrument was piloted by 23 nurses in three different health care centers in three Lithuanian counties. Based on the pilot, some minor linguistic changes were made in three statements.

The OSC instrument was piloted with four teams of primary health care professionals (nurses [23], physicians [13] and others [23]) from three different health care centers in three Lithuanian counties. In total, 59 primary health care professionals completed the questionnaire. A few minor linguistic changes were made in the OSC instrument based on the findings of the pilot study.

4.4   Data collection

The data was collected using two questionnaires: one for nurses and one for other care professionals. The collection was carried out in 18 public primary health care centers in one county of Lithuania between August 2009 and January 2010. Nurses completed the questionnaire consisting of the ENSS and OSC instruments, and items examining their background factors. The other health care professionals completed only the OSC and the background factor questions.

For data collection, team meetings (n=29) were organized during working hours. The participants individually completed the questionnaires and returned them in sealed envelopes to the researcher who was present at the team meeting. It required about 25 to 30 minutes to complete the questionnaires.

4.5   Data analysis

The statistical data analyses were conducted using the IBM SPSS Statistics software (version 21). Basic descriptive statistics such as frequencies, percentages, mean and standard deviations were calculated. For the instruments' scale reliability analysis, the Cronbach's α coefficient for internal consistency was calculated.

The Kolmogorov–Smirnov test was used to ascertain if the data from the ENSS were normally distributed. For analyzing the differences between groups, non-parametric Mann–Whitney U and Kruskal–Wallis tests were used. Spearman's rank correlations were used for examining the associations between variables. Explorative factor analysis was performed to examine the theoretical structure of the instruments. Calculation of the coefficient of Cronbach's alpha and the item-total-correlations were used to refine the instrument and to eliminate inadequate items. Items with item-total correlations below 0.3 were eliminated (Field, 2005). Ending up in 55 items used and two subscales were modified (Article I, Table 1).

Ward's minimum-variance hierarchical clustering method with standardization of incorporated variables (Everitt et al., 2011) was used to group nurses teams by the nature of their experienced stress. The Pearson product-moment correlation coefficient was calculated to identify the relationship between variables. The differences between nurses teams was calculated using F statistics and eta-squared ANOVA (Article II).

The analysis of data from the OSC instrument was carried out using IBM SPSS Statistics version 21. Descriptive statistics were calculated for all variables. The r_{wg} - an index of within-group consistency of responses and single-item was used to describe the characteristics of the groups (LeBreton & Senter, 2008). Explorative factor analysis was performed to examine the theoretical structure of the instrument.

The intraclass correlation coefficient (ICC) and eta-squared ANOVA were used to calculate differences between groups. Culture and climate profile grouping was performed by using Hierarchical cluster Analysis and Cluster methods (Ward's Squared Euclidean distance) (Article III). The relationships between the stress factors, and organizational culture and climate were determined by non-parametric Spearman's rank correlation coefficient (Article IV).

4.6   Ethical considerations

Ethical principles were maintained during the whole research process, including the phases of study design, data collection, analysis and reporting (World Medical Association Declaration of Helsinki, 2013). As a starting point, an ethical statement was obtained from the Ethical Committee of Klaipeda State University of Applied Sciences, Lithuania. Permission to conduct the study was received from the directors of each of the primary health care centers which participated in this study. All study participants received both oral and written information about the purpose of the study, including an assurance of confidentiality delivered in the team meetings for the data collection organized by the researcher (World Medical Association Declaration of Helsinki, 2013). The data collection was based on voluntary participation, but although all of the health care professionals in the study centers were invited to take part, not all of them chose to participate. The participants were aware that the meetings had been organized solely for the purposes of data collection. After the data collection was complete, the researcher made themselves available for further discussion, but none of the participants took this up.

5   Results

This chapter presents the main results of the study, describing and evaluating nurses' experienced stress and its connections with the social context in primary health care. Specifically, details of nurses' experienced stress in primary health care (Article I, II), the organizational social context of different primary health care teams (Article III), and the connection between nurses' stress and organizational culture and climate in primary health care teams (Article IV) are presented.

5.1   Stress experienced among nurses in primary health care

Overall, primary health care nurses (n=187) reported themselves to be moderately stressed in their work. The most frequent or extremely stressful situations were connected to death and dying (mean 2.32), when nurses had conflicts with physicians (mean 2.12), or situations related to patients and their families (2.08). Situations involving problems with peers were reported as least frequent or least causative of extreme stress (Article I, Table 4).

Several background factors were found to be correlated with how stressed nurses experienced different situations. Of the personal factors, age correlated with how stressed nurses felt in situations involving of death and dying, while older nurses felt more stressed (Article I, Table 5). Concerning work related factors, the length of work experience in health care had a weak but statistically significant correlation with the situation of death and dying. The length of work experience nurses had in primary health care and in their present organization correlated with how much they felt stressed in conflict situations with physicians. Nurses with work experience in primary health care longer than 21 years experienced stress related to conflicts with physicians more frequently. The correlations of the length of work experience and other stress factors were not found to be statistically significant (Article I, Table 5).

The intensity of stress depended on the patient groups which nurses were working with. Nurses working with adults patients experienced less stress than those working with younger. It was particularly evident in situations where nurses

had conflict with physicians, problems with supervisors, where they had uncertainty concerning treatment, or in situations involving patients and their families (Article I, Table 6). No other personal or work related background factors were found to have any significant correlations with stress (Article I).

Stress at a team level (n=29) varied both between teams and within teams, but not to any degree of statistical significance. The age of nurses working in the team, their length of work experience in health care and other background factors were not significantly associated with the sub-categories of stress. Only a weak statistically significant correlation was found between the team's size and workload (Article II).

Among nurses' teams, there was a strong positive correlation between all of the investigated subareas of stress, with the exception of 'discrimination'. Especially, when the team experienced stress connected to 'uncertainty concerning treatments', it correlated with other stress subareas. Whether the team experienced stress connected to 'patients and their families' or 'problems with supervisors', it also seemed to be connected with many of the other stress dimensions which were expressed (Article II, Table 3).

The teams had some similarities concerning their experienced stress. Four clusters were identified, according to the different stress profiles of teams. Different stress profiles were revealed for different teams, based on their common features. Looking at the four clusters analysis, some team profiles seem to be at a certain level in all of the subcategory areas, whilst some profiles show a degree of variation in how stressful the subareas have been reported within the team (Article II, Figure 1).

When continuing the analysis, it was found that the cluster distribution of teams comparing two stress dimensions – e.g. 'inadequate preparation' and 'problems with supervisors' showed a correlation between those areas. The first cluster indicates teams in which nurses experienced average levels of stress concerning 'inadequate preparation' and 'problems with supervisors'. The teams in which stress due to 'inadequate preparation' was relatively low, and stress relating to 'problems with supervisors' was seen as average were distinguished in the third cluster (Article II, Figure 2).

5.2   Organizational culture and climate experienced among teams, and issues of morale

Different organizational cultures, climates and levels of morale could be found in the studied primary health care centers. These differences existed at both team and organizational levels (Article III).

Concerning culture, the differences found between teams were significant in regard to culture rigidity and resistance. Also, significant variations were found at the upper organizational level between primary health care centers in the same dimensions, with a significant further variance in proficiency (Article III, Table 2).

Based on team and organizational level background factors, several correlations were found (Table 4). The culture was reported to be more rigid when the team members were older and the length of their work experience in health care was longer. The culture was also seen to be more resistant when teams had longer lengths of work experience in health care and their present organization. But looking within organizations, no organizational background factors were seen to correlate with the culture dimensions to any degree of statistical significance.

Table 4. Pearson correlations between background factors, and organizational culture, climate and morale at team and organization level

Background factors	Organizational culture			Organizational climate			
	Rigidity	Proficiency	Resistance	Stress	Engagement	Functionality	Morale
Teams (n=29)							
Age	.590**	.216	.062	.016	.173	.221	.122
Length of work experience in health care	.646**	.243	.087	.023	.140	.234	.096
Length of work experience in primary health care	.271	-.372	.322	.259	-.240	-.213	-.361
Length of work experience in present organization	.434*	-.209	.411**	.355	-.230	-.129	-.266
Organizations (n=18)							
Age	.652	.265	.163	.197	.151	.313	.116
Length of work experience in health care	.722	.271	.189	.144	.156	.318	.100
Length of work experience in primary health care	.345	-.431	.469	.440	-.450	-.249	-.413
Length of work experience in present organization	.558	-.319	.594	.497	-.297	-.182	-.384

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Climate differs between team and organizational levels in both stress and functionality dimensions. Within team and organization levels, it was found that the variation was largest in the climate area of engagement (Article III). The team level and organizational level background factors did not correlate statistically significantly with any of the climate dimensions.

Differences in variations in climate were bigger than those seen in culture, and this was seen both between the teams and between the organizations. The resistance of culture and whether the climate was functional was seen to differ at both team and organization levels (Article III).

Culture and climate profiles were created connecting teams with similar features to different clusters. It was found that the culture and climate profiles varied among the teams. In regard to areas of culture rigidity, proficiency and resistance there was a lot of variation. For example, the culture in a team concerned to its rigidity may be relatively low, concerned to its proficiency may be medium, and concerned to its resistance it may be low. However culture could also be at a medium level concerning rigidity, low concerning proficiency, and high concerning resistance (Article III).

The culture profiles may also examined based on the four different clusters which were found. One cluster profile represents a moderate level of culture dimensions, while other cluster profiles show a variation between low, moderate and high levels of difference in the culture dimensions. Furthermore, it was found that age and length of work experience in health care, primary health care, and in the present organization, all were statistically significantly related to the different culture profiles (Article III).

The teams also varied based on their climate profiles. For example, one team may report high stress, medium engagement and a relatively low functionality, while another team may show low stress, high engagement and a high functional climate (Article III).

As seen with the organizational culture, the climate profiles were also found to consist of different clusters (three). Of those, one profile clearly shows the connection of high stress to low functionality, although the others do not show such clear relationships. Based the background factors of respondents, it was found that the length of work experience in primary health care and the present organization correlated with the climate clusters (Article III).

Work morale was seen to vary in teams and organizations in primary health care. However, based on the background factors at team and organizational level, no statistically significant correlations were found.

5.3 Connection of nurses experienced stress and organizational culture and climate

A connection between primary health care nurses' experienced stress and their organizational culture and climate was found in this Lithuanian context, but it was considered to be very weak. Where the primary health care team culture was experienced to be resistant, it was associated with the nurses' experienced stress. It was found that nurses felt stressed in situations when they have problems with their supervisors, with patients and their families, and because of conflicts they have with physicians. When the organizational culture was reported to be proficient, it associated with stress related to inadequate preparations and problems with supervisors (Article IV).

When the climate among team members was seen to be stressed, then nurses reported that they experienced the stress individually. Nurses felt stressed when they had problems with supervisors, problems with peers, in regard to how adequate they felt preparations were, and when they experienced uncertainty concerning treatments. In the primary health care teams, where the functionality of the team was not felt to be good, then the organizational climate was found to correlate with higher levels of nurses' experienced stress, especially in situations when they had problems with peers and supervisors and when they felt inadequately prepared (Article IV).

6 Discussion

This chapter discusses the validity and reliability of the study (data, research process and instruments). It proceeds to compare the results of the study with previous research. Finally, the implications for nursing practice, management, education and research are presented.

6.1 Validity and reliability of the study

The purpose of assessing the validity and reliability of a study is to determine whether or not the data collected provide a true picture of the phenomenon under examination (Polit & Beck, 2004).

In this study, the data collection process was purposeful, which may be seen as a limitation. The data was collected from only one county of Lithuania, and the data collection was quite a demanding because it was organized in team meetings attended by the researcher. The sample requirement was to have at least six participants of a team who worked together in the primary health care center, in order to be able to calculate values for establishing a common understanding of their organizational culture and climate (Glisson, 2007). All of the public primary health care centers in the purposefully selected county participated in the study. However, as the counties in the country under investigation offer the same kind of care across the country, we may say that the results conceivably represent the situation of the whole country.

One limitation of the sampling was that the size of the teams differed from 6–24 persons. However, if we consider how the instrument measuring organizational culture and climate has previously been reported (Glisson, 2007), we can see that a minimum of six team participants may represent the common experience of the social context. The number of nurses who responded in each team varied from 2–13 (mean = 6.41) (Article II, III), and the response rate of nurses who participated in the study was low (32 %), as all health professionals 31 %.

Several tests were performed to prove the validity and reliability of the instruments used in this study.

Internal validity refers to the ability of research instrument to accurately measure what it is supposed to measure (Polit & Beck, 2004). A valid instrument truly reflects the concept it is supposed to measure and produces trustworthy study results (Burns & Grove, 2005). Thus, instruments which had previously been found to be valid were used in this study. There are three aspects of internal validity which relate to content, criterion and construct. Content validity of the instrument can be assessed by panel experts on the related topic (Polit & Beck, 2004). The content and construct validity of both instruments (ENSS and OSC) was established (Article I, III). Construct validity can be analyzed, for example, by way of factor analysis. The results of a factor analysis can be used for evaluation of conjunction of the theoretical and empirical data structures (Burns & Grove, 2005).An explorative factor analysis was carried out, and the factor solution for the scales was only slightly seen as supporting the theoretical structure of the instrument.

An instrument's reliability can be assessed firstly, in terms of its internal consistency using Cronbach's alpha coefficient, which shows how homogenously items make up single sub-dimensions (Burns & Grove, 2005; Parahoo, 2006). A number of reliability tests have been conducted to establish the consistency with which the instruments collected the data (Article I, III).

6.2   Comparison of findings with previous research results

This study set out to describe how experienced stress among nurses connected with the social context (organizational culture, climate and morale) of primary health care teams. In order to understand this connection, it was necessary to examine primary health care nurses' experienced stress at individual and team levels, to explore the social context of primary health care centers (and teams), and to describe the connections between the organizational culture and climate of primary health care centers (and teams) and nurses' experienced stress.

There has been little research (especially in Europe) on primary health care nurses' experienced stress from the point of view of its connection with the organizational social context.

The empirical element of this study confirmed some of the main aspects which were highlighted in the theoretical elements (Figure 1). It shows that nurses experienced stress at individual and team levels. In addition, the demographic

factors of the primary health care nurses correlated with how stress was experienced in different work situations.

Primary health care nurses reported themselves to be moderately stressed in their work. According to Lazarus and Folkman (1984), reports of feeling stressed at work shows an individuals' perception of the work demands placed on nurses, and also their perceived capability to meet those demands. The most stressful situations were connected to death and dying, when nurses had conflicts with physicians, or situations which related to patients and their families. The least stressful situations were when nurses had problems with peers and discrimination. Previous studies (Lee, 2003; Opie et al., 2010) have also found that primary health care nurses experienced a low-to-moderate frequency of stress. Mikutaviciene and Merkys (2010) found more intensive stress among nurses working in primary health care centers than nurses who worked in hospitals. Dealing with issues of death and dying was seen as the most stressful situation for Jordanian nurses (Hamaideh et al., 2008), although Lee (2003) found encountering death and dying to be a lesser extent source of stress. Conflicts with physicians and conflicts with other nurses have previously been recognized as main sources of stress (Lee, 2003; Opie et al., 2010), and this study has similar findings. Lee (2003) highlighted the most frequent causes of nurses' stress as heavy workload and understaffing, and to a lesser extent, inadequate preparation, a lack of support, and an uncertainty concerning treatment. Workload, inadequate preparation, lack of support, and an uncertainty concerning treatment were not observed to be notably stressful situations for the Lithuanian primary health care nurses who featured in this study. However, although situations related to patients and their families were not found to be stressful for other nurse groups (Lee, 2003; Hamaideh et al., 2008; Lim, 2010), this was not the case for Lithuanian primary health care nurses (Mikutaviciene and Merkys, 2010).

Several background factors were found to correlate with how stress was experienced by nurses in different situations. Of the personal factors, age correlated with how stressed the nurses felt in the situation of death and dying, with older nurses feeling more stressed. Earlier, Milutinovic et al. (2012) reported that young adult (30–39 years old) nurses experienced higher stress levels than either their younger or older co-workers concerning problems with colleagues and supervisors. However, Lee (2003) reported that junior nurses (with less than 10 years of experience) had more work related stress than senior counterparts with more than 10 years of experience. Previous studies (e.g. Finlayson et al., 2002; Lee, 2003; Huntington et al., 2008) have also mentioned that age and experience can be seen to correlate with nurses' stress.

In regard to other demographic data, education was not found to be associated with nurses experienced stress. However, different results have found by other researchers, where background factors of education and gender were seen to correlate with nurses stress (Finlayson et al., 2002; Huntington et al., 2008).

Concerning work related factors, how long a nurse had worked in health care was weakly associated with how stressed they felt in connection to death and dying. Also, how long the nurse had worked in primary health care and in their present organization were associated with how much they felt stressed in conflict situations with physicians. Those with more than 21 years in primary health care were more prone to experiencing stress when they had conflicts with physicians. Different to this study however, younger age public health nurses with a shorter length of work experience, and higher level of education have been reported as having more occupational stress (Nabirye et al., 2011). However, there are also studies that have not found any associations between age and experience with psychological distress among public health nurses (Sakano et al., 2012).

This study found that stress is not experienced at the same levels of intensity among nurses who work with different patient groups, and that nurses working with younger patients experience more stress than those working with adults. The present study did not find any other significant correlations with personal or work related background factors and situations of stress. However, some associations with the nurses' educational levels have been previously reported. Especially, it has been seen that higher education helped nurses to maintain a good working ability (Seibt et al., 2008), and that lower levels of education amongst nurses was associated with higher experienced stress concerning discrimination and problems with supervisors (Milutinovic et al., 2012).

In the present study, detailed analysis shows that stress can also be studied as a team level variable (Article II). Stress at the team level varied both between teams and within teams. However, this is not particularly surprising because nurses work in different teams comprised of various individuals, and have different styles of work organization and communication between team members (Tucker et al., 2013). According to Karasek and Theorell (1990), the main sources of stress come from psychological job demands, job control and social interaction. Previous studies have indicated that job stressors were related with models of organizing work, and this was expressed in terms of functional nursing, team nursing, and primary nursing (Chang et al., 2006). Also, a team's communication was note as very important aspect for development of trust among team members and performing distinct (Mundt et al., 2016).

Neither the age of nurses working in a team, the lengths of their work experience in health care, nor any other of the studied background factors were associated with the sub-categories of stress. Only a weak correlation between team size and workload was found, although it was unexpected that workload seemed to cause more stress in larger teams than in smaller teams. This may however be explained by the fact that these teams were from larger health care centers with a correspondingly large number of clients. Especially, in the large health care centers of Lithuania, the workload ratio (client/worker) tends to be bigger compared with smaller centers.

The findings showed that among nurses' teams, there was a strong positive correlation between all of the stress subareas investigated, with the exception of discrimination. When the team experienced stress connected to an uncertainty concerning treatments, it correlated with other stress subareas. When the team experienced stress connected to patients and their families, or to experiencing problems with supervisors, it also seemed to be connected with many of the other stress subareas. The levels of these stress areas may well increase in the future, as the job demands of nursing continue to increase due to an aging population, the continual advances in technology, and also the higher expectations of patients (Simoens et al. 2005). Also, when an experience of stress was seen to be connected with the areas of conflict with physicians, problems with peers, or problems with supervisors, then all of these dimensions induced stress in the nurse's relations with others in the team, and were also seen to cross-correlate. These results could be taken to affirm that good relationships between team members are a very important aspect to avoiding the experience of job stress. Previous teamwork related studies have identified that collaborative primary health care teams are a key component of health care initiatives for chronic illness prevention and management (Mundt et al., 2016). A current and on-going challenge for leadership and management is to develop primary health care centers to work on a more multi-professional basis. The main issue seems to be developing effective communication between physicians and other health care professionals, however the difficulties of inter-professional interaction have been cited as one of the problems faced by Lithuanian health care (Bankauskiene & Jakusovaite, 2006).

In this research, the nurses' teams could be seen to have some similarities in their stress levels, and so could be grouped into clusters. Four clusters were structured, according to the different stress profiles exhibited by teams. Different stress profiles were revealed for different teams, based on their common features. Managers should be aware that stressed teams may not have the potential to work

and operate effectively, and this may impact on nursing care outcomes and quality. In the cluster distribution of teams comparing inadequate preparation and problems with supervisors shows a correlation between those areas. So, the nursing managers of primary health care centers should address these areas when looking to improve the working lives of their nurses.

Different organizational cultures, climates and levels of morale existed in primary health care centers in Lithuania, at both team and organizational levels (Article III). Similar results have previously been reported by other researchers (Glisson et al, 2008; Rostila et al., 2011; Glisson et. al., 2012; Aarons et al., 2012). In this study, the culture in primary health care was more rigid at both team and organizational levels than that reported in Finnish primary health care (Rostila et al., 2011). Also, the culture was more resistant than that reported by Rostila et al. (2011), and the culture proficiency showed a larger degree of variation than seen in Finnish primary health care. The climate stress and climate functionality in both studies was very similar, and only the results of climate engagement were higher in Lithuanian primary health care compared with its Finish counterpart (Rostila et al., 2011).

In the present study, several background factors correlated with culture and climate. It should be highlighted that in this study, the difference in variations in climate were bigger than those noted in culture, both between teams and between organizations. The culture and climate profiles were created by connecting teams with similar features to the different clusters. The same way of showing the variation of teams with different cultures and climates was previously used by Glisson et al. (2008). The present study found that the culture and climate profiles varied among teams. For example, the culture in the team related to rigidity may be relatively low, whilst that relating to proficiency may be medium, and that relating to resistance may be low. However culture could also be seen at a medium level concerning rigidity, but low concerning proficiency, and high concerning resistance. In this regard, the results of previous study results from the USA which identified different types of organizational culture are useful, when considering the three dimensions of culture, proficiency, rigidity and resistance. As with organizational culture, the organizational climate profiles could also be grouped into three different clusters. Several distinct climate profiles were identified among the primary health care teams (similar to the study of Glisson et al., 2008), and four different climate profiles were found concerning three climate dimensions.

This study found that work morale in primary health care teams and organizations differs, but the degree of variation was smaller compared with

Finnish primary health care (Rostila et al., 2011). Furthermore, the same results were found at team and organizational levels, however they indicate that the size of team or organization has no effect on employees' morale. This study did not look how the organizational variables of culture and climate affected the primary health care professionals' morale. Also, Rostila et al. (2011) suggested directing more attention to how organizational factors are important for individual-level morale in health care, so these perspectives may be something to be considered by future researchers.

The research identified a weak connection between Lithuanian primary health care nurses' experienced stress, and organizational culture and climate. A previous study found the stressor-strain relationship to be moderated by both individual and team level factors (Tucker et al., 2013). Furthermore where the primary health care team culture was seen to be resistant, it was seen to be linked with nurses that felt stressed in situations when they had problems with supervisors, with patients and their families, and because of conflicts with physicians. According to Glisson (2007), workers in resistant cultures do not show so much interest in change, and in the Lithuania primary health care context of this study, significant differences were found between teams in regard to their culture resistance.

This study found that when the climate among team members was perceived to be stressed, then nurses' reported that they also experienced individual stress. Glisson (2015) confirmed that organizational climate remains an individual perception (Figure 1). When a climate is stressed, the workers are emotionally exhausted and overwhelmed as a result of their work, and they feel that they are unable to accomplish the necessary tasks at hand (Glisson et al., 2008). Nurses working in teams in a stressed climate felt stressed in situations when have problems with supervisors, problems with peers, the adequacy of preparations, and when experiencing uncertainty concerning treatments. The findings from other research shows that some team related factors are associated with stress, such as the presence of a team climate or having supportive colleagues. Also, a team climate has been identified to provide support for innovation and have a positive impact on well-being (Dackert, 2010).

In this study, the findings show that in the primary health care teams where the functionality of teams was not felt to be good, then the organizational climate was found to correlate with higher levels of nurses' experienced stress, especially in situations where they had problems with peers and supervisors, or perceived inadequate preparation. When a climate is functional, then workers receive support from their colleagues, and they have a better idea of their own role and place in

their unit (Glisson et al., 2008). A work environment which encourages respectful co-operation among team members is more conducive to support a sustained level of high quality care. It may also help retain staff in their work place (Laschinger, 2010). Better communication may foster a better team climate, in which a shared team vision and common goals can be seen to contribute to improved patient outcomes, patient satisfaction, and improved quality of care (Mundt et al., 2016).

7 Conclusions

This study confirms that a connection exists between nurses' experienced stress and their organizational culture and climate. The results show the variation of stress, stress intensity which exists at individual and team levels, and also the different representations of organizational culture, climate and morale which exist among teams.

The most frequent stressors primary health care nurses reported were related to situations death and dying, conflicts with physicians, and to patients and their families. Stress related to death and dying was more frequently experienced by older nurses, and stress related to conflict with physicians' situations was related to the age of older nurses and a longer work experience in health care.

Also, the stress experienced by nurses depends on the team they operate in. The stress effect of the team's size was moderate, but the background factors of the teams had little correlation with the dimensions of stress. In larger teams, workload was seen as a significant cause of stress. There were teams which exhibited a high level of stress in all of the identified stress dimensions, however, there were also teams with average or low stress levels.

Different levels of organizational culture, climate and morale existed in primary health care centers, at both a team and organizational level. The differences between teams were significant in terms of their culture rigidity and resistance. Climate differences were found at both team and organizational levels in regard to climate stress and functionality. A variance in work-related morale was seen in teams and organizations.

Evaluating the connection between nurses' stress and the organizational social context in primary health care, it was found that different types of organizational culture and climate are associated with the stress that primary health care nurses experience in different situations. Overall, the nurses' stress at team level significantly correlated with a resistant organizational culture and where climate functionality was not felt to be good. However, there needs to be more detailed research into nurses' experiences of stress in primary health care, and especially on the impact that the organizational social context of primary health care centers have on nurses experienced stress.

This study confirms earlier theoretical knowledge about the multidimensional factors of stress, and organizational culture and climate. Additionally, it offers a better understanding of how a team based instrument may be used in nursing science. Using this experience, other researchers may gain insights as to how they might use the method for investigating team level issues.

Based on the findings of this study, the following recommendations are made for nursing practice and management, for nursing education, and for future research in the fields of experienced stress and organizational culture and climate.

Recommendations for nursing practice
1. The stress experienced by nurses needs to become a priority on the agenda of primary health care organizations, otherwise nurses will continue to suffer from stress, and the consequences will directly influence the quality of care given to clients.
2. Primary health care is based on teamwork. Each team member should have a responsibility to contribute to constructive and effective teamwork, especially by developing positive interpersonal relationships, conflict resolution skills, and understanding the role of the effective teamwork in reducing work-related stress.

Recommendations for leadership and / or management
1. Recognizing and understanding the job-related stressors of nursing may help nurse managers to implement strategies to reduce nurse's stress and at the same time to improve patient outcomes.
2. Managers should be aware of the variations in experienced stress among primary health care nurses working in different teams, and this will help to organize the appropriate support which teams need.
3. Managers should recognize the different kinds of social contexts (culture, climate, morale) which teams work in, so as to help them to co-work efficiently in primary health care settings.
4. An evaluation of the organizational culture, climate in primary health care teams and health care professionals' morale may help leaders/managers to identify fixable problems, and to find ways to decrease the levels of stress experienced by nurses.

Recommendations for nursing education:

1. Nursing education should address the topic of stress and teach strategies which focus on coping and prevention. This early awareness will help reduce the incidence of nurse burnout and the other consequences of stress seen in nursing literature, and allow graduates of the nursing profession to prepare for the realities of nursing work.
2. Nurses need continuing education about stress management, maintaining a supportive workplace environment, the evolving practices of primary health care, and multidisciplinary teamwork.
3. In education, consideration should be given to organizational climate, culture and morale, and how these issues impact on the care we provide to clients.

Recommendations for future research
1. A lack of studies concerning the stress nurses experience at team level, and the connection between nurses experienced stress and primary health care teams' organizational culture and climate provide focus points for future studies related to nurses experienced stress in teams.
2. Future studies should investigate how the staff-patient ratio can be connected with nurses' stress levels or their organizational culture and climate
3. There is a need for in-depth studies with large samples of nurses and a bigger number of primary health care teams to confirm the connections between nurses experienced stress, and organizational culture and climate.
4. The role of morale should be further investigated in the primary health care context.
5. Also, there is a need to do studies in different health care settings and to compare the findings and develop a model geared to reduce nurse stress.
6. Interventions are required to support the development of positive organizational climates and cultures. In terms of a longitudinal study, a comparison of the baseline findings and data collected following the intervention would give a more comprehensive picture of the correlation between the organizational social context with nurses' experienced stress.
7. In order to gain a deeper understanding of how stress affects the nurses' experience or the social context in primary health care, alternative research approaches such as those involving mixed-methods should be used in the future. Especially, by adopting a qualitative approach, a different view of nurses' stress could be achieved. In order to explore the cultural phenomena involved in this type of enquiry, ethnography could provide

one way for future researchers to investigate the social context which exists in primary health care.

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Appendices

Expanded Nursing Stress Scale (French et al., 2000)

No		Does not apply	Never stressful	Occasionally stressful	Frequently stressful	Extremely stressful
1.	Performing procedures that patients experience as painful	0	1	2	3	4
2.	Criticism by a physician	0	1	2	3	4
3.	Feeling inadequately prepared to help with the emotional needs of a patient's family	0	1	2	3	4
4.	Lack of opportunity to talk openly with other personnel about problems in the work setting	0	1	2	3	4
5.	Conflict with supervisor	0	1	2	3	4
6.	Breakdown of computer	0	1	2	3	4
7.	Inadequate information from a physician regarding the medical condition of a patient	0	1	2	3	4
8.	Patients making unreasonable demands	0	1	2	3	4
9.	Being sexually harassed	0	1	2	3	4
10.	Feeling helpless in the case of a patient who fails to improve	0	1	2	3	4
11.	Conflict with a physician	0	1	2	3	4
12.	Being asked a question by a patient for which I do not have a satisfactory answer	0	1	2	3	4
13.	Lack of opportunity to share experiences and feelings with other personnel in the work	0	1	2	3	4

	setting					
14.	Floating to other units/services that are short-staffed	0	1	2	3	4
15.	Unpredictable staffing and scheduling	0	1	2	3	4
16.	A physician ordering what appears to be inappropriate treatment for a patient	0	1	2	3	4
17.	Patients' families making unreasonable demands	0	1	2	3	4
18.	Experiencing discrimination because of race or ethnicity	0	1	2	3	4
19.	Listening or talking to a patient about his/her approaching death	0	1	2	3	4
20.	Fear of making a mistake in treating a patient	0	1	2	3	4
21.	Feeling inadequately prepared to help with the emotional needs of a patient	0	1	2	3	4
22.	Lack of an opportunity to express to other personnel on the unit my negative feelings towards patients	0	1	2	3	4
23.	Difficulty in working with a particular nurse (or nurses) in my immediate work setting	0	1	2	3	4
24.	Difficulty in working with a particular nurse (or nurses) outside my immediate work setting	0	1	2	3	4
25.	Not enough time to provide emotional support to the patient	0	1	2	3	4
26.	A physician not being present in a medical emergency	0	1	2	3	4
27.	Being blamed for anything that goes wrong	0	1	2	3	4
28.	Experiencing discrimination on the basis of sex	0	1	2	3	4

29.	The death of a patient	0	1	2	3	4
30.	Disagreement concerning the treatment of a patient	0	1	2	3	4
31.	Feeling inadequately trained for what I have to do	0	1	2	3	4
32.	Lack of support from my immediate supervisor	0	1	2	3	4
33.	Criticism by a supervisor	0	1	2	3	4
34.	Not enough time to complete all of my nursing tasks	0	1	2	3	4
35.	Not knowing what a patient or a patient's family ought to be told about the patient's condition and its treatment	0	1	2	3	4
36.	Being the one that has to deal with patients 'families	0	1	2	3	4
37.	Having to deal with violent patients	0	1	2	3	4
38.	Being exposed to health and safety hazards	0	1	2	3	4
39.	The death of a patient with whom you developed a close relationship	0	1	2	3	4
40.	Making a decision concerning a patient when the physician is unavailable	0	1	2	3	4
41.	Being in charge with inadequate experience	0	1	2	3	4
42.	Lack of support by nursing administrators	0	1	2	3	4
43.	Too many non-nursing tasks required, such as clerical work	0	1	2	3	4
44.	Not enough staff to adequately cover the unit	0	1	2	3	4
45.	Uncertainty regarding the operation and functioning of specialized equipment	0	1	2	3	4
46.	Having to deal with abusive patients	0	1	2	3	4

47.	Not enough time to respond to the needs of patients' families	0	1	2	3	4
48.	Being held accountable for things over which I have no control	0	1	2	3	4
49.	Physician(s) not being present when a patient dies	0	1	2	3	4
50.	Having to organize doctors' work	0	1	2	3	4
51.	Lack of support from other health care administrators	0	1	2	3	4
52.	Difficulty in working with nurses of the opposite sex	0	1	2	3	4
53.	Demands of patient classification system	0	1	2	3	4
54.	Having to deal with abuse from patients' families	0	1	2	3	4
55.	Watching a patient suffer	0	1	2	3	4
56.	Criticism by nursing administration	0	1	2	3	4
57.	Having to work through breaks	0	1	2	3	4
58.	Not knowing whether patients' families will report you for inadequate care	0	1	2	3	4
59.	Having to make decisions under pressure	0	1	2	3	4

Appendix 2

Questionnaire of background factors

1. Age: _____

2. Gender:

Male	
Female	

3. Your acquired full Education:

Secondary school	
High education (medical school)	
College level Bachelor	
University level Bachelor	
Master	
PhD (Doctor of science)	
Other	

4. Year you qualified: _____

5. Your qualification name:

Nurse	
Physician	
Physiotherapist	
Psychologist	
Ergotherapist	
Odontologist	
Assistant of doctor odontologist	
Midwife	
Other	

6. Length of work experience in health care: _____years, if less than one year_____ months

7. Length of work experience in primary health care: _____years, if less than one year_____ months

8. Length of work experience in present organization: _____years, if less than one year _____ months

9. Your current position at organization:

General practice nurse	
Head nurse	
Community nurse	

Physician	
Midwife	
Other	

10. Indicate the groups of clients you work with:

New-born babies	
Children	
Adolescents	
Youth	
Adults	
Elderly and old people	
Community	
Family	
Other	

11. Do you work as a team in specialized area?

Family health	
Community health	
Child health	
Elderly care	
AIDS / HIV	
Mental health	
Drug addicted patients	
Alcohol addicted patients	
Diabetes	
All the mentioned areas are included in our team work	
Other	

Original publications I-IV

Research Article

Do nurses feel stressed? A perspective from primary health care

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Abstract　　This study describes nurses' experiences of stress in primary healthcare settings, and examines correlations between stress and personal factors. There were 187 nurses from 18 public primary care centers participating, drawn from one county of Lithuania. The Expanded Nursing Stress Scale was used to evaluate the study data. The study indicates that in primary healthcare centers, nurses working with adult patients experienced less stress than those working with younger patients. The most frequently reported stressors were those related to death and dying, and conflicts with physicians and patients and their families. In particular, older nurses more frequently experienced stress related to death and dying. The intensity of nurses' stress in conflict situations with physicians was related to age, however, the depth of work experience in the healthcare setting was more influential. Findings indicate that more detailed research is needed regarding stress experiences in primary health care, and especially the related impact of the social contexts involved in the setting.

Key words　　conflict, Lithuanian, nursing, primary health care, stress.

INTRODUCTION

A shortage of nurses, population aging, economic and social problems, technological developments, and new demands from patients and families have increased the pressure on both health services and healthcare professionals. Commonly reported difficulties in the recruitment and retention of nurses include the nature of the work, the lack of systematic support and a heavy workload (Lee, 2003; Golubic *et al.*, 2009). It has been found that organizational support is a key element in nurses' retention (Galletta *et al.*, 2011).

Today's nursing environment is demanding due to critical understaffing and patients with multifaceted needs (Admi & Moshe-Eilon, 2010; Ulrich *et al.*, 2010). It is also noted that work-related stress is on the increase due to continuing changes in the workplace, increasing job demands, and job insecurity (Dollard *et al.*, 2010). Yearly decreases in the number of nurses in Lithuania places additional demands on practising nurses. According to the Lithuanian Statistics Department, in 2011 there were 71.7 nurses per 10 000 members of the population. In other European countries, however, the ratio is as high as 319/10 000 in Norway, 239/10 000 in Finland, 174/10 000, in Switzerland, 159/10 000 in Denmark and 150/10 000 in Sweden in the timeframe 2005–2012 (Global Health Facts, 2013).

Work stress among nurses is an international phenomenon (Chang *et al.*, 2005; Abualrub *et al.*, 2009). Previous research has largely focused on nurses and healthcare professionals working in hospitals (Yang *et al.*, 2004; McGilton *et al.*, 2007; Abualrub *et al.*, 2009). In particular, the job stress of nurses working in acute and specialized care units has been widely studied (Chen *et al.*, 2009; Milutinovic *et al.*, 2012). Studies of work stress in Lithuania started more than 10 years ago, mostly addressing intensive care (Kriukelyte *et al.*, 2005). A few studies are available on nurses in primary health care, not only in Lithuania but also elsewhere. The study by Glumbakaite *et al.* (2007) involved 1095 nurses working in Lithuanian healthcare centers, and witnessed a trend of higher psychological demands at work, mostly manifesting as exacerbated stress. Mikutaviciene and Merkys (2010) studied work-related stress in hospital and primary healthcare nurses. In the study, stress was found to be more intensive among nurses working in primary healthcare centers and related to external macrofactors.

There is, however, a lack of information regarding work-related stress among nurses in primary healthcare settings. Given the differences in the nature of the work and approaches to patient care in different settings, we need to be careful when using the results of earlier studies undertaken in different clinical contexts to explain work-related stress among nurses in the primary care setting. Internationally we have a trend of increasing home and outpatient care, and more patients with multiple health problems are being cared for in the community. Thus, there is a need to study the topic

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of stress in primary health care, it is likely that this sector will employ greater numbers of nurses in the future.

Literature review

The past decade has witnessed a growing interest in the psychosocial work environment of healthcare workers as they are at high risk of stress and burnout. Numerous studies in different countries have shown that occupational stress is prevalent among nurses (Golubic *et al.*, 2009; Lim *et al.*, 2010; Shirey *et al.*, 2010; Ulrich *et al.*, 2010). A constellation of circumstances leads to nurses' stress (Watson *et al.*, 2008), and nursing is an emotionally demanding job, which contributes to levels of interactive and daily stress (Mann & Cowburn, 2005).

This study was guided by Lazarus and Folkman's (1984) cognitive theory of stress and coping. In this, they define the stress process as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984: 19). This definition seems to translate well to the workplace; for example, an employee may experience stress if they perceive their workload to be high and if they lack the necessary coping skills. Thus, many of the most commonly used definitions for occupational stress encompass these concepts (French *et al.*, 1982).

Work characteristics are environmental stressors, whereas personal characteristics facilitate the individual's ability to conduct the appraisal of the stressors (Lazarus & Folkman, 1984). The key elements of the stress process are the individual's interpretation of the threat and their perceived ability to cope with the situation. Stress is a non-specific reaction and not something negative per se. However, a stress reaction continuing for a period of months or years, with no chance to recover, will have detrimental effects (Olofsson *et al.*, 2003).

Studies on nurses' occupational stress have mainly focused on hospital settings, and different study designs and instruments make it hard to gain a coherent view of previous studies. Major environmental factors leading to stress are numerous and include: high job demands and a lack of supportive relationships (Lambert & Lambert, 2001; Chang *et al.*, 2005); work overload, uncooperative clients and family members, an inability to reach physicians, unfamiliarity with situations, concern for the quality of nursing and patient care, an inability to deliver quality nursing, legislative limitations on advanced practice, and poor relationships with supervisors (Lambert & Lambert, 2001); time demands (Mirzaei *et al.*, 2012); inadequate staffing and lack of resources (Payne, 2001); inadequate preparation, discrimination, and uncertainty concerning treatment (French *et al.*, 2000); a lack of skills and experience (Brown & Edelmann, 2000); the organization of work and financial issues, public criticism, workplace hazards, interpersonal conflicts, shift work, and professional and intellectual demands (Golubic *et al.*, 2009); rapidly changing circumstances, inadequate resources and staff, dealing with death and dying, difficult patients and their families, relationships with physicians, a low institutional commitment to nursing, and the poor delivery of care (Chang *et al.*, 2005). When assessing occupational stress and its impact on nurses, Yang *et al.* (2004) found that the primary influential factors were recreation, social support, rational conduct, role insufficiency, role clash, responsibility, and poor work environment.

Fewer studies were found on nurses employed in primary healthcare settings. Lee (2003) found they experienced a low-to-moderate frequency of stress. Workload, conflicts with physicians, and conflicts with other nurses were identified as the major sources of stress. To a lesser extent, inadequate preparation, lack of support, encountering death and dying, and an uncertainty concerning treatment were also reported.

Certain background factors correlate with stress. Lee (2003) found that junior nurses reported more job-related stress than senior nurses. Nurses aged 30–39 years experienced higher stress levels through problems with colleagues and supervisors than either younger or older co-workers (Milutinovic *et al.*, 2012). Sakano *et al.* (2012) reported no unambiguous correlations between psychological distress, age, and experience as a public health nurse. Dackert (2010) likewise reported no statistically significant differences related to age, although regarding working hours, there was a statistically significant difference in stress among those nurses who worked part time.

McGilton *et al.* (2007) found that females reported higher levels of job-related stress than males. A correlation with educational levels was also raised in some studies. Higher education had a positive effect on maintaining a good working ability in occupations entailing psychological stress (Seibt *et al.*, 2008). Nurses' stressors were found to correlate both significantly and positively with shift work, level of education and the model of nursing provision (Hamaideh *et al.*, 2008). Discrimination and problems with supervisors were found to be more stressful by nurses with a lower level of education (Milutinovic *et al.*, 2012).

Occupational stress among nurses is important to recognize because it can adversely affect attitudes, staff morale, communication, cognition, and quality of care (Coomber & Barriball, 2007; Braithwaite, 2008; Krasner *et al.*, 2009). It has also been identified as a major reason why nurses fail to function at an optimal level of effectiveness (Happell *et al.*, 2003). Stress in nursing has been found to constantly affect quality of care, care outcomes, nurses' well-being, and work satisfaction (Coomber & Barriball, 2007). A high level of work stress has been found to cause feelings of inadequacy, self-doubt, lowered self-esteem, irritability, depression, somatic disturbance, sleep disorders, burnout (Ulrich *et al.*, 2010), psychological distress (Sakano *et al.*, 2012), and intention to leave the profession (Lim *et al.*, 2010). Furthermore, prolonged stress and burnout among hospital nurses reportedly affects patient satisfaction (Sveinsdottir *et al.*, 2006).

Several concepts such as job stress, work stress, and occupational stress have been used in previous studies to analyze the practice of nursing. In this article, we use the concept of stress to help analyze nurses' experiences in their primary healthcare work. The study aimed to describe nurses' experiences of stress in primary healthcare settings and to examine correlations between stress and personal factors. It

focused on nurses as the largest group of healthcare professionals, and who often experience stress which can adversely affect their personal health as well as the quality and cost of the care they provide.

The research questions addressed in this study were: (i) What kind of stress did the primary health care nurses experience? (ii) What are the relationships between stress and personal factors?

METHODS

Participants

The study population ($N = 579$) comprised nurses working in 18 public primary health centers. These centers were located in one county of Lithuania, which at the time of data collection was divided into 10 counties.

Ethical considerations

Ethical approval for the study was obtained from the Ethical Committee of the Faculty of Health Sciences. Permission to conduct the study was granted by the Directors of all the primary healthcare centers where data were collected. The researcher provided all of the participants with both oral and written information about the purpose of the study, including an assurance of anonymity.

Design and data collection

This study used a descriptive research design (Polit *et al*., 2001). The data were collected by a questionnaire between August 2009 and January 2010. Questionnaires were completed during working hours in health professional team meetings organized with the researcher. The questionnaire took about 20 min to complete. Individually completed questionnaires in sealed envelopes were returned to the researcher who was present during the data collection meetings.

We collected the data using the Expanded Nursing Stress Scale (ENSS) developed by French *et al*. (2000), and a background form with demographic and work-related questions. The background questions (personal factors) included demographics (Table 3) and work-related questions (Table 3). The ENSS instrument was developed from the NSS – the Nursing Stress Scale (Gray-Toft & Anderson, 1981). The ENSS includes nine subscales containing 59 items: death and dying (7), conflict with physicians (5), inadequate preparation (3), problems with peers (6), problems with supervisors (7), workload (11), uncertainty concerning treatment (9), patients and their families (8), and discrimination (3). A five-point response scale was used for all items (0 = [Does not apply], and 1 = [Never stressful] to 4 = [Extremely stressful]).

The ENSS has been widely used internationally and is well validated and reliable, with confirmatory factor analyses meeting standard criteria levels and with established concurrent criterion-related validity (French *et al*., 2000). Cronbach's α values for the instrument were consistently high at 0.96 (French *et al*., 2000), 0.82 (McGilton *et al*., 2007),

0.74–0.88 (Por, 2005), and 0.94 (Milutinovic *et al*., 2012) providing evidence of internal reliability.

For this study, the ENSS was back-translated into English by two certified translators (Polit *et al*., 2001). The translations of the instrument were discussed by an expert panel that comprised the researcher, the translators, and other specialists (a nurse, a psychologist, a social worker, a manager, and a teacher of Lithuanian), in order to confirm content validity.

Before data collection, the questionnaire was tested in a pilot study. The participants in the pilot study were three groups of nurses (10, 7, and 6 nurses respectively) from three different healthcare centers in different counties. Altogether, 23 nurses completed the questionnaire. On the basis of the pilot test, changes in Lithuanian language constructions were made in three statements ("Lack of an opportunity to express to other personnel on the unit my negative feelings towards patients," "Being held accountable for things over which I have no control," and "Not knowing whether patients' families will report you for inadequate care").

Data analysis

Statistical analyses were performed with IBM SPSS Statistics software, Version 19. A series of basic statistics (frequency, percentages, and mean and standard deviation) was calculated for each identification variable. For the scale's reliability analysis, Cronbach's α coefficient for internal consistency was calculated. The data were subjected to the Kolmogorov–Smirnov test to ascertain if they were normally distributed. As they were found not to be, non-parametric tests (Mann–Whitney U and Kruskal–Wallis) were used to analyze the differences between the groups. Non-parametric Spearman's rank order correlations were used to estimate the possible correlations between our variables. All of the reported *p* values were based on two-sided tests, and *P < 0.05* was considered to be statistically significant.

The 59-item instrument was refined by means of analysis. To examine unidimensionality, we used an exploratory factor analysis to compute the ratio of the first and the second eigenvalues. The second step in refining the instrument was to calculate the coefficient of Cronbach's α and the item-total correlations were used to eliminate inadequate items. An iterative sequence of computing Cronbach's α coefficients and item-total correlations was executed for each ENSS dimension; the corrected item-to-total correlations were graded in descending order. Items with item-total correlations below 0.3 were eliminated (Field, 2005).

The factor loadings suggested some modifications (Table 1). The item of having to organize doctors' work was eliminated from the scale "Conflict with physicians". Three items: "breakdown of computer", "floating to other units/services that are short staffed", and "unpredictable staffing and scheduling" were eliminated from the "Workload" scale, as they did not meet the acceptable one-dimensional requirement. Thus, after revision, 55 items were used, and two subscales were modified. French *et al*. (2000) also eliminated two items from the stress subscales ("breakdown of

Table 1 Results of principal component analysis

Scale	First/second eigenvalue For primary scale	For corrected scale	Factor loading Lmax /Lmin For primary scale	For corrected scale	% of variance For primary scale	For corrected scale
1. Death and dying	3.7/0.9		0.85/0.57		53.0	
2. Conflict with physicians†	2.0/1.1	1.9/1.0	0.76/0.24	0.83/0.77	39.1	48.2
3. Inadequate preparation	1.8/0.70		0.79/0.71		58.3	
4. Problems with peers	2.8/0.9		0.73/0.59		47.3	
5. Problems with supervisors	3.5/1.0		0.80/0.52		49.4	
6. Workload‡	4.8/1.2	3.9/0.9	0.77/0.12	0.82/0.56	44.1	49.4
7. Uncertainty concerning treatment	3.8/1.0		0.78/0.54		42.6	
8. Patients and their families	3.9/0.9		0.74/0.63		48.29	
9. Discrimination	2.0/0.7		0.90/0.66		65.5	

For all scales the Kaiser–Meyer–Olkin measure of sampling adequacy > 0.60, Bartlett's test of sphericity $P < 0.001$. †By adjusting the scale the following was eliminated: "Having to organize doctors' work." ‡By adjusting the scale the following were eliminated: "Floating to other units/services that are short-staffed (L = 0.12), Unpredictable staffing and scheduling (L = 0.27), Breakdown of computer (L = 0.16)."

Table 2. Reliability of ENSS scales (internal consistency)

Subscale	Number of Items	Inter-Item Correlations Mean	Minimum	Maximum	Item-Total Correlation Minimum	Maximum	Cronbach's α
Death and dying	7	0.45	0.14	0.71	0.48	0.78	0.85
Conflict with physicians	4	0.30	0.17	0.46	0.37	0.48	0.64
Inadequate preparation	3	0.38	0.34	0.44	0.41	0.48	0.65
Problems with peers	6	0.39	0.19	0.56	0.43	0.71	0.77
Problems with supervisors	7	0.50	0.21	0.71	0.38	0.78	0.87
Workload	8	0.43	0.17	0.61	0.49	0.72	0.85
Uncertainty concerning treatment	9	0.41	0.06	0.69	0.34	0.74	0.86
Patients and their families	8	0.46	0.34	0.68	0.53	0.70	0.87
Discrimination	3	0.36	0.14	0.62	0.25	0.66	0.64
Stress (overall)	All subscales	0.60	0.24	0.81	0.46	0.87	0.92

computer" and "floating to other units/services that are short staffed"), which were included in the original NSS.

The internal consistency coefficient of each subscale (Cronbach's α) ranged from 0.64 to 0.87 (Table 2). The moderate to high values indicated the reliability of the measurement tool. In terms of the number of items, the internal consistency of the subscales of "Conflict with physicians," "Inadequate preparation," and "Problems with peers" was acceptable, and that of the other subscales was good.

RESULTS

Completed questionnaires were received from 187 nurses (32%), all female. The majority of the participants (73%) were 41 to 60 years old, with 8% being over 60. Almost all participants were graduates of two-year-duration studies from medical schools (85%), and about 67% of them had qualified over 20 years ago. Most nurses (74%) had 21 to 40 years' work experience in health care, and about 48% had been working in primary health care for more than 20 years. In answering the questions about their patient groups and

whether they worked as a team in a specialized area, the participants could choose more than one response. Most participants were community nurses working with all groups of patients: children, young people, adults, and elderly people (Table 3).

The mean values, standard deviations, and reasons for stress determined by intensity of stressfulness are provided in Table 4. There was a significant difference in how often the nurses had experienced each of the investigated situations, with a range of 2–77% of respondents stating that they had never been in the situation in question ("Does not apply").

The mean of stress-level measurements was low for all factors. The most stressful situations were "death and dying," "conflict with physicians," and "patients and their families," and the least stressful were "discrimination" and "problems with peers." A low standard error (except for the "Discrimination" subscale) of each item indicated low measurement error. Thus, for example, the nurses stated that the death of a patient with whom they had developed a close relationship was frequently or extremely stressful (mean 2.32). Frequently or extremely stressful situations for nurses were "conflict

Table 3. Demographic characteristics (N = 187)

Variable	N (%)
Age (n = 183)	
≤ 40	35 (19.1)
41–50	67 (36.6)
≥ 51	81 (44.3)
Acquired Full Education (n = 186)	
Medical school	158 (84.9)
Bachelor at College level	10 (5.4)
Bachelor at University level	16 (8.6)
Master	2 (1.1)
Year of qualification (years ago) (n = 156)	
≤ 10	18 (11.5)
11–20	33 (21.2)
21–30	54 (34.6)
31–40	46 (29.5)
≥ 40	5 (3.2)
Qualification acquired (n = 187)	
Nurse	174 (93)
Midwife	6 (3.2)
Other	7 (3.8)
Length of work experience in health care (years) (n = 185)	
≤ 10	8 (4.3)
11–20	34 (18.4)
21–30	71 (38.4)
31–40	66 (35.7)
≥ 40	6 (3.2)
Length of work experience in primary health care (years) (n = 176)	
≤ 10	36 (20.4)
11–20	55 (31.3)
21–30	54 (30.7)
31–40	29 (16.5)
≥ 40	2 (1.1)
Current position at organization (n = 187)	
General practice nurse	78 (41.7)
Head nurse	16 (8.6)
Community nurse	81 (43.3)
Midwife	1 (0.5)
Other	11 (5.9)
Groups of patients you work with (n = 187)	
Newborn babies	83 (44.4)
Children	113 (60.4)
Adolescents	116 (62)
Young people	111 (59.4)
Adults	129 (69)
Older people	123 (65.8)
Community	92 (49.2)
Family	67 (35.8)
Other	5 (2.7)
Work as a team in specialized area (n = 187)	
Family health care	53 (28.3)
Community health care	89 (47.6)
Child health care	66 (35.3)
Older person's care	57 (30.5)
AIDS / HIV	4 (2.1)
Mental health care	11 (5.9)
Care of people with drug addiction	7 (3.7)
Care of people with alcohol addiction	11 (5.9)
All the areas mentioned are included in our team work	62 (33.2)
Other	8 (4.3)

with a physician" (mean 2.12) and "having to deal with violent patients" (mean 2.08). A smaller number of nurses (mean 1.48) reported situations of "difficulty in working with a particular nurse (or nurses) outside my immediate work setting" as being frequently or extremely stressful. However, a low statistically significant correlation was found between the subscales of "death and dying" and "length of work experience in health care"; between the subscales of "conflict with physicians," and "length of work experience in health care;" and also between those of "length of work experience in primary health care" and "length of work experience in the present organization" (Table 5).

Stress related to experiences with "death and dying" was more frequently experienced by older nurses, and less frequently by nurses aged 41 to 50 (Kruskal–Wallis test, chi square = 9.1, $P = 0.03$). Correlations with other factors of stress and a nurse's age were not statistically significant. The results of the study did not demonstrate that nurses of different ages experienced different types of stress (Kruskal–Wallis test, chi square = 2.2, $P = 0.53$). The intensity of a nurses' stress in conflict situations with physicians was related to age, however, work experience in health care was a more influential factor. Nurses with over 21 years' experience in primary health care more frequently experienced stress related to conflicts with physicians (Kruskal–Wallis test, chi square = 11.3, $P = 0.01$). The correlation of length of work experience and other stress factors was not statistically significant.

The factor of nurses' patient groups was checked to establish whether the difference in working with different patient age groups was statistically significant. Two statistically significant groups were identified ($P < 0.05$): an adult group (including older people) and younger patients (including children, adolescents and young people, and newborn babies). The correlation between nurses' experienced stress and patient groups was checked. The results showed that the intensity of stress depended on patient groups (Table 6). There was evidence that nurses working with adults experienced less stress than nurses working with younger patients (Mann–Whitney test, U = 3016, $P = 0.03$). The trend was particularly obvious in the subscales "Conflict with physicians," "Problems with supervisors," "Uncertainty concerning treatment," and "Patients and their families" (Table 6). "Death and dying" was also a strong stress factor for nurses working with newborn babies (Mann–Whitney test, U = 3016, $P = 0.03$).

There was no statistically significant correlation between the intensity and different factors of stress or stress in general, and the education and qualifications held. There was also no correlation found between nurses' stress and their current position in the organization (Kruskal–Wallis test, $P > 0.05$).

DISCUSSION

The stressors that characterized the nurses from primary healthcare centers in Lithuania were similar to those reported in other studies. Dealing with issues of death and dying was the most stressful situation among nurses, and had

Table 4. Nurse experienced stress

Subscale	N	Minimum	Maximum	Mean	Standard error of mean
Death and dying	183	1.00	4.00	2.32	0.042
Conflict with physicians	187	1.00	3.75	2.12	0.040
Patients and their families	187	1.00	4.00	2.08	0.037
Uncertainty concerning treatment	187	1.00	3.44	2.00	0.033
Problems with supervisors	185	1.00	4.00	1.98	0.038
Inadequate preparation	186	1.00	3.33	1.83	0.037
Workload	184	1.00	3.38	1.81	0.036
Discrimination	85	1.00	4.00	1.65	0.092
Problems with peers	186	1.00	3.00	1.48	0.033

Table 5. Correlation (Spearman's correlation coefficient) of the subscale with age, length of experience in health care, length of experience in primary health care, and length of experience in the present organization

Subscale	Age	Length of work experience in health care	Length of work experience in primary health care	Length of work experience in present organization
Death and dying	0.114	0.158*	0.062	0.146
Conflict with physicians	0.161*	0.203**	0.205**	0.194*
Inadequate preparation	0.011	0.056	0.016	−0.037
Problems with peers	−0.085	−0.030	−0.033	−0.018
Problems with supervisors	−0.073	−0.016	0.095	0.042
Workload	−0.045	−0.008	0.025	0.024
Uncertainty concerning treatment	−0.050	−0.018	0.002	0.041
Patients and their families	0.069	0.128	0.090	0.125
Discrimination	−0.012	0.071	0.099	0.117
Stress	0.031	0.098	0.104	0.116

*Correlation is significant at the 0.05 level (two-tailed test). **Correlation is significant at the 0.01 level (two-tailed test).

Table 6. Correlation of nurses' stress and patient groups nurses work with

Scale	Groups of clients (mean rank) Younger age clients	Adults	Mann–Whitney U	*P* value
Death and dying	101	88.1	3025	0.13
Conflict with physicians	105.6	88.8	3070.5	0.05
Inadequate preparation	100.8	90.2	3288	0.20
Problems with peers	103.4	89.1	3111.5	0.09
Problems with supervisors	104.9	87.6	2991.5	0.04
Workload	99.4	89.3	3252	0.23
Uncertainty concerning treatment	107.1	88.1	2981.5	0.03
Patients and their families	106.7	88.3	3002.5	0.03
Discrimination	42.6	43.2	741	0.93

been reported earlier (e.g. Hamaideh *et al.*, 2008). In contrast an earlier study by Lee (2003) found issues of death and dying to be a lesser source of stress. In common with the presented study, Milutinovic *et al.* (2012) and Lee (2003) also identified conflict with physicians as one of the major sources of stress. Previous studies conducted in hospitals reported that workload and high job demand were the most frequent causes of nurses' stress (Lambert & Lambert, 2001; Payne, 2001), and the same issues of heavy workload and understaffing, were highlighted by Lee (2003) when investigating the stress of nurses working in primary care settings. This was not, however, observed in this study of

nurses working in Lithuanian primary healthcare centers, so an investigation of this difference may provide a focus for further work.

One of the most stressful factors for nurses was work situations involving patients and their families. Nursing in primary health care requires a great deal of collaboration with patients and their families. Nurses meet them at health centers and also at home when visiting patients with serious health problems. Communication with patients' families in the patients' homes, unfamiliar surroundings, and being alone when making decisions could explain why nurses found it stressful. Mikutaviciene and Merkys (2010) also reported that nurses working in primary healthcare settings demonstrated more intensive levels of stress than those in hospitals. Researchers identify the situation that nurses in primary healthcare settings have episodic relationships with patients and families. The relationships between patients and nurses in hospital, however, are produced in everyday interactions, thereby helping nurses to control the situation and pre-empt predictable areas of conflict.

It was interesting to note that compared with previous studies where stress deriving from problems with peers and problems with supervisors was significant (e.g. Payne, 2001), these areas were found to be the least significant in this study. The correlation between the primary health nurses' personal factors and the stress they experienced was found to be at a statistically significant but low level. A significant correlation was found between length of work experience and the areas of dealing with issues of death and dying and conflict with physicians. The nurses with longer work experience in health care mentioned that the most stressful situations were caring for dying patients and having conflicts with physicians. Those nurses were also older and most of them had a lower level of education. About 70% of the participants had qualified more than 20 years previously. It seems, therefore, that older nurses with longer work experience in health care were not theoretically prepared to manage conflicts and stressful situations, quite possibly because these subjects were not included in their original studies. Nurse education (of two years' duration) was previously undertaken in medical schools and was oriented to prepare assistants for physicians with a low level of independence. However, other studies such as McGilton *et al.* (2007) report no statistically significant connections between nurses' experienced stress and their sociodemographic characteristics. Today, nurses need to feel that they are involved in decision making, especially in relation to patient care issues. As such, breaking down barriers of communication between physicians and nurses, and promoting collaboration between nursing and medical services is important (Rosenstein, 2002).

An interesting study result was that nurses working with younger patients experienced higher levels of stress than those working with adults. The trend was especially evident regarding the fields of uncertainty concerning treatment, encountering patients and their families, and also dealing with issues of death and dying, the latter being a major stress factor for nurses working with newborn babies. This may be because care for a newborn baby or a child also entails

dealing with the whole family. It can also be noted that most of the nurses' home visits in primary health care revolves around the care of children. Meeting with a young patient's family in their home may have been perceived as more stressful than meetings with patients in primary healthcare centers. Therefore more research is necessary to explain these findings of this study. According to Lazarus' conceptual theory (1984), however, stress is a subjective phenomenon determined by one's perception and interpretation of a specific situation. Thus it is important to identify the stressors perceived by nurses in specific roles and settings (Admi & Moshe-Eilon, 2010).

CONCLUSIONS

To reduce stress among nurses employed in primary health care we need to develop our approach to patient and family centred care, promoting multidisciplinary teamwork, a safe environment, and supervision at work. Nurses also need continuing education in the areas of stress management and control, a supportive work–care environment, the practice of family nursing, and multidisciplinary team work. Specific to Lithuania, an increased knowledge of stress and stress management, dying patients, and nursing ethics should be integrated into nurses' basic professional education. Overall, however, more detailed research is needed into the experience of stress in primary healthcare nursing, especially the impact of the social context of primary health care on nurses' experiences of stress.

CONTRIBUTIONS

Study design: NG, TS, PA.
Data collection and analysis: NG, SB.
Manuscript writing: NG, TS, PA.
The final proof has been accepted by all authors.

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<div align="right">ORIGINAL ARTICLE</div>

Experienced stress among nursing teams in primary health care

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ABSTRACT

This research looks to describe experienced stress in nursing teams working in primary health care. Recent changes and increased demands in primary health care may result in highly stressed teams, which have a subsequent impact on nursing care. Nurses' experienced stress has previously been identified at individual, team, organizational and cultural levels. Team related factors associated with stress have been identified as team climate, supportive colleagues and work environment. A descriptive study was conducted among nurses from 29 teams in 18 different primary health care centres, located in one Lithuanian county. The Expanded Nursing Stress Scale (ENSS) was used. A total of 187 nurses completed the questionnaire. The stress experienced by nurses depends on the team. The study results reveal both individual and team level stress. The effect of the team size is moderate, but the background factors of the teams had little association with the sub-categories of stress. Workload tended to cause more stress in larger teams. At the nurses' team level, a strong positive correlation was found between all of the stress subcategory areas investigated, except for that of "discrimination". Different teams followed different stress profiles, but based on their common features, various clusters were identified which should be noticed by management.

Key Words: Primary health care, Nurses, Stress, Team

1. INTRODUCTION

Stress in nursing has attracted considerable attention as a focus for research, and as consequence, multiple stressors have been identified.[1]

Stress is a complex phenomenon which results from an interaction between individuals and their work environment, local forces, pressures and culture, and this often requires customized interventions.[2] A comprehensive review of the literature has identified six main stressors in nurses' work.[3] These are: workload (inadequate staff cover or time pres-

sure); relationships with other clinical staff; leadership and management style, lack of adequate supervisory support, coping with the emotional needs of patients and their families, poor patient diagnosis, death and dying, shift working, and lack of reward. There is a large and growing body of knowledge of the stressors that nurses experience and findings suggest that these have changed over time.[4] The occupational stressors nurses encounter can differ between countries,[5] between urban and rural areas,[6] and between hospitals and primary health care.[7] The major sources of stress for nurses

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employed in primary health care settings were identified as their workload, conflicts with physicians, and conflicts with other nurses. To a lesser extent, inadequate preparation, lack of support, encountering death and dying, and uncertainty concerning treatment were also reported.[7] Stress issues continue to exert influence on dissatisfaction and turnover for nurses.[8–10]

Although there is a lack of studies which focus on perceived stress among nursing teams in primary health care, there are studies based on the experiences of individual nurses. Individual characteristics such as age, nursing education and experience have been reported to affect the perception of stress. Researchers have also found that younger public health nurses with a shorter length of current work experience, a higher level of education, and less per-job continuing education perceive a higher level of occupational stress.[11, 12]

Lenthall et al.[13] synthesized the literature identifying the stresses experienced by remote area nurses (RANs). They found that the reported demands experienced by RANs could be grouped into four themes: the remote context; workload and extended scope of practice; poor management; and violence in the workplace and community. With rural psychiatric nurses, "workload" was the highest perceived stressor followed by "inadequate preparation".[14] For district nurses, the most stressful reported aspects of their work included work overload, climate of change, complex care needs, and a lack of teamwork with other departments.[15] In long-term care, nurses' occupational stress, psychological morale and job satisfaction were found to be influenced by conflict resolution styles, individual characteristics, work demands and work resource factors.[16] In municipality-based elderly care, nursing personnel reported various factors generating a stress of conscience (stress caused by a troubled conscience).[17] Among community hospice nurses, the provision of stress-awareness training has been highlighted as a preventative measure for dealing with stress.[18]

Although stress has been thoroughly investigated among health care professionals, the focus has mainly been on individual experiences, and what happens in the teams has seldom been a central issue. Tucker et al.[19] investigated 23 workgroups and found a stress-exacerbating effect on anxiety and satisfaction when there was a mismatch between collective efficacy and control. The stressor-strain relationship was also found to be moderated by both individual and team level factors.

Primary care systems are becoming ever more complex. This complexity concerns organizational structure, relationships (formal and informal) with other sectors, and the range of

personnel and their responsibilities. Personnel are expected to work in relationships with specialized hospitals and also with other dimensions of primary health care. The expectations of work arise from broader societal trends, and involve issues such as the promotion of client involvement and increasing electronic developments. These change processes have not pointed towards any single dominating organizational and/or behavioural framework being used.[20] Because of today's increasing demands, we may end up with highly stressed teams in primary health care. From the viewpoint of management, it should be noticed that stressed teams may not have the potential to work and operate effectively, which undoubtedly has an impact on the delivery of nursing care.

Lithuania is one of the Baltic region countries (Estonia, Latvia, Lithuania, Poland and some regions of Russia), which from the 1990's have looked to improve their primary health care and implement reforms to rationalize their health care systems.[21] Primary health care reform in Lithuania has mainly focused on decentralization and strengthening interprofessional collaboration.[22] A primary health centre team in Lithuania usually includes family physicians and community nurses.[23] However, reorganization of the primary health care system has not changed their working relationship. Lithuanian community nurses continue to work in a traditional hierarchical relationship with family physicians. Typically and especially in bigger health care centres, they tend to work in the same offices as the family physicians and do not provide independent patient consultations.[24] Also, a paternalistic approach towards patients by staff, and difficulties in interprofessional interaction have been cited as problems faced by Lithuanian health care sectors.[25]

The characteristics of working in teams involved in providing community care for clients with chronic conditions were identified as falling into three categories: shared purpose, working in the team, and tensions within the team.[26] By necessity, nurses are willing to collaborate in teamwork, which in turn is associated with good communication skills and an understanding of the roles of others.[27] However, this collaboration might mean a lack of experienced support for the nurse. District nurses were found to lack the authority to start nurse-led clinics because of a lack of collaborative teamwork, an organizational structure that did not enable nurse-led scheduled appointments, and also the nurses' limited view of their own profession.[28]

Team level stress has been reported in some nurse-based studies. For example, in Sweden, Ekedahl and Wengström[29] identified four levels of stress: the individual level, the group level related to the team, the organizational level, and the cultural level where care-philosophy and work codes provide

a central focus. Some team related factors have been seen to be associated with stress, such as the presence of a team climate and having supportive colleagues. A team climate has also been found to provide support for innovation and have a positive impact on well-being. That well-being was in-turn associated with lower levels of stress reactions.[30] Working with supportive colleagues who respect each other's contribution to the patient care process can go a long way in dealing with the stressors that arise in today's health care environments. A work environment that encourages respectful interactions among team members has been identified as being important for sustaining high quality care and retaining nurses.[31] However, one reason cited by primary care physicians for a higher intention to leave their employment has been found to be those stresses which relate to teamwork.[32]

In a Finnish study by Kinnunen-Amoroso,[33] an occupational health team of nurses and physicians reported that while work-related stress was rarely assessed, there were often no protocols for when, how or who to contact in this regard. Further interventions at an organizational level were rare and only individuals were treated. However, the participants of the study also saw the organization as being responsible for developing solutions for stress-related events.[33] Some organizations have been found to provide either preventive or reactive interventions, like regular team meetings and e-learning training for managers on identifying and managing stress.[34] Also, a simple but inclusive programme which aims to deliver appropriate education to primary care teams (within protected time) has been indicated to overcome barriers to teamwork.[35] Civility may be one way for health care providers to proactively influence their well-being in response to an inevitably stressful work environment,[36] and good inter-professional working and supportive cultures are some of the features which ensure role effectiveness.[37]

In summary, how nurses contend with the stress of their professional role has been of interest for decades, and research indicates that clinical nurses' stress derives from both organizational and professional factors.[38] Stress as an interest of study has mainly focused on the individual experiences of nurses, and seldom in the context of the primary health care. This is especially the case when investigating the phenomenon either amongst or within teams.

Hence, the aim of this study was to describe the experienced stress existing among nursing teams working in primary health care. The research questions addressed in this study were: What differences exist in the levels of experienced stress between nurses' teams working in primary health care? What are the correlations between the sub-categories of stress at a team level?

2. METHOD

2.1 Design, sampling and data collection

A descriptive research design was used in this study.[39] All of the public funded primary health care centres (n = 18) in one of 10 counties of Lithuania were asked to participate in this study, which was conducted from August 2009 to January 2010. The inclusion criterion for the purposive sample was being a nurse member of a multidisciplinary team caring for clients in the public health sector. In total, 187 nurses (n = 579) from 29 teams working in 18 primary health care centres were investigated. For data collection, team meetings (n = 29) were organized by the researcher. Nurses who participated in the team meetings completed the questionnaire, which took no more than 20 minutes to complete, and returned them in sealed envelopes to the researcher who was present at the meeting.

2.2 Instrument

The questionnaire consisted of background factors and the Expanded Nursing Stress Scale (ENSS) with 59 items,[40] which was developed from the Nursing Stress Scale.[41] The background questions considered the respondent's age, education, and their length of work experience in health care, primary health care, and in their present organization. Also recorded were the patient groups that the respondent worked with and their specialist area.

The ENSS consists of nine subscales: death and dying (7 items), conflict with physicians (4 items), inadequate preparation (3 items), problems with peers (6 items), problems with supervisors (7 items), workload (8 items), uncertainty concerning treatment (9 items), patients and their families (8 items) and discrimination (3 items). Nurses were asked to respond to the question "how stressful has it been for you" using a response scale of: 0 = does not apply, 1 = never stressful – 4 = extremely stressful. The validity and reliability of the instrument used has been demonstrated in previous studies. Cronbach's alpha value of the ENSS was measured at 0.96 by the original authors,[40] and in other studies it has been measured as 0.82,[42] 0.74-0.88,[43] and 0.94.[44] In this study, the internal consistency coefficient of each subscale (Cronbach's alpha) ranged from 0.64 to 0.87 ("conflict with physicians", "inadequate preparation", and "problems with peers" - 0.64 to 0.77; other subscales - 0.85 to 0.87).

For this study, the instrument was translated into the Lithuanian language, then back translated into English by two certified translators. The face validity of the instrument was checked by an expert panel,[39] and the ENSS was also pilot tested with 23 nurses to confirm its content validity.

2.3 Participants

The county-wide population of nurses working in public funded primary health care centres (n = 18) was 579, and 187 nurses from 29 multi-professional teams participated in this study. The number of nurses who responded in each team varied from 2–13 (mean = 6.41). Most of the nurses had extensive experience in nursing. 77% of the nurses had more than 20 years' work experience in health care, and about half (48%) had worked in primary health care for more than 20 years. About the same number of nurses (46%) had more than 20 years experience in their present organization. The majority (81%) of the nurses who participated in the study were > 40 years of age.

The mean age (49.2) among the nurses' teams was quite high (range 43.9 years – 63.3 years), and the time nurses had worked in health care (mean = 27.8) was quite long (range 21.7 years – 42.0 years). The length of work experience in primary health care (mean = 20.9) varied among the teams (range 10.6 years – 34.5 years), as did their length of work experience in their present organization (mean = 20.2, range 5.6 years – 35.0 years).

The educational background for 85% of the nurses consisted of two-year programmes of studies provided in medical schools. The teams covered in the study worked with all patient age groups and covered all specialized areas of primary health care (such as family health care, child health care and elderly care).

2.4 Data analysis

Analyses of the relationship between the nine subscales of nurses' stress (ENSS) and team membership were conducted using MANOVA.[45,46] Partial eta squared values were calculated in order to assess the magnitude of impact of the membership of the team on nurses' stress.

Correlation analysis was used to identify the relationship between variables, and the Pearson product-moment correlation coefficient was calculated. A *t*-test was used to establish whether the correlation coefficient was significantly different from zero. The cluster analysis method was used to group teams by the nature of their experienced stress. Cluster analysis is an data analysis tool which aims at sorting different objects into groups, so that the degree of association between two objects is maximal if they belong to the same group, and minimal if otherwise.[47] Hierarchical cluster analyses using the Ward's minimum-variance method and squared Euclidean distance as the similarity measure were used. The differences between clusters were evaluated using ANOVA.

2.5 Ethical issues

An ethical statement for the study was obtained from the ethical committee of the Health Sciences Faculty of Klaipeda State University of Applied Sciences. The directors of the primary health care centres also gave their individual permission for the study to be performed. The researcher organized team meetings for the data collection and provided participants with both oral and written information about the purpose of the study, confirming their rights to confidentiality and anonymity. The study conformed to the auspices of the Declaration of Helsinki.[48]

3. RESULTS

3.1 Differences in the levels of experienced stress between nurses' teams working in primary health care

Measurements of stress are usually studied at the individual level. However, this more detailed analysis shows that stress can also be studied as a team level variable. There was a statistically significant difference in nurses stress (overall), based on the team membership (the application of MANOVA revealed: $F = 1.30$, $p = .004$, Wilk's $\Lambda = 0.16$, partial $\eta^2 = 0.20$). This means that working in a particular team can either increase or decrease the level of stress (determines different level of stress), and the partial η^2 shows that working in different teams can have the effect of averaging stress levels.

When analyzing whether different stress sub-categories vary between different nurses' teams, no significant differences were identified (the results are presented in Table 1, and all *p*-values are > .05). This can be explained by the fact that the sample was not large (n = 187), and additionally, the nurses' teams were small (the average nurses team size was 6.41). When the sample size is small, important effects can be seen as non-significant. However, the partial η^2 ranged from 0.13 to 0.19 for most sub-categories of stress, and shows that the team may have an effect averaging stress levels. Working in some teams may have effect of discrimination emanating from stress (partial $\eta^2 = 0.33$) (few teams pointed out high levels of stress in the discrimination area).

The results (see Table 1) show that the difference between the maximum and minimum stress values (assigning the average stress within the team) is large. Partial eta squared values close to 0.15 indicate a medium-sized influence of the team membership on stress. Furthermore, the stress level was also analyzed as a team characteristic, by using the team as a unit of analysis. The average *z*-transformation of the stress measurement scales were calculated for each team.

The background factors among the teams were not significantly associated with the sub-categories of stress. There

was a weak statistically significant correlation between team size and "workload" ($p = .028$) (see Table 2), with "workload" causing more stress in larger teams. Also a negative

relationship between the average age of the nurses' team and "inadequate preparation" was found.

Table 1. Univariate effect of team membership

Dependent Variable	Team Mean (z-scale)		Anova		
	Min	**Max**	**F**	**Sig.**	**Partial Eta Squared**
Death and dying	-0.80	1.27	0.9	.57	0.15
Conflict with physicians	-0.77	0.84	1.0	.43	0.16
Inadequate preparation	-1.21	0.87	1.3	.15	0.19
Problems with peers	-0.81	0.95	1.3	.17	0.19
Problems with supervisors	-1.01	1.09	1.1	.33	0.17
Workload	-0.96	0.63	0.90	.62	0.13
Uncertainty concerning treatment	-1.10	1.12	1.1	.29	0.17
Patients and their families	-1.43	0.73	1.1	.38	0.16
Discrimination	-0.77	1.57	1.1	.36	0.33

Table 2. Nurses' team level background factors correlation with the sub-categories of stress ($n_{nurses\ teams} = 29^{**}$)

		Death and dying	Conflict with physicians	Inadequate preparation	Problems with peers	Problems with supervisors	Workload	Uncertainty concerning treatment	Patients and their families	Discrimination
Age	Pearson Correlation	0.312	0.093	-0.396*	-0.009	-0.322	-0.310	0.051	0.111	0.028
	Sig. (2-tailed)	.099	.630	.033	.962	.088	.102	.794	.566	.891
Length of work experience in *health care*	Pearson Correlation	0.302	0.087	-0.349	0.002	-0.268	-0.280	0.072	0.130	-0.065
	Sig. (2-tailed)	.111	.655	.063	.992	.160	.141	.710	.501	.753
Length of work experience in *primary health care*	Pearson Correlation	-0.147	0.073	0.074	0.342	0.251	-0.033	-0.090	-0.169	0.099
	Sig. (2-tailed)	.447	.706	.702	.070	.189	.866	.644	.381	.630
Length of work experience in *present organization*	Pearson Correlation	0.194	0.051	-0.248	0.180	0.109	-0.134	0.031	-0.042	0.028
	Sig. (2-tailed)	.314	.794	.194	.349	.575	.488	.873	.828	.892
Number of members in the team	Pearson Correlation	0.254	-0.014	0.073	-0.161	0.247	0.408	0.059	0.213	0.140
	Sig. (2-tailed)	.184	.943	.708	.405	.196	.028	.762	.268	.495

Note. * Correlation is significant at the 0.05 level (2-tailed); ** n = 26 only in sub-category of Discrimination

3.2 Correlations between the sub-categories of team stress

Correlations between nine sub-categories of stress were evaluated. At the nurses' team level, there seemed to be a strong positive correlation (significant at the .01 level, 2-tailed) between all of the stress subcategory areas investigated, except for that of "discrimination". "Death and dying" was seen to cause more stress in teams where a larger number of nurses experienced stress regarding "uncertainty concerning treatments", as well as "patients and their families" and "conflict with physicians". When teams experienced stress connected with "conflict with physicians", it seemed to have correlations with their experiences with "uncertainty concerning

treatments" and "inadequate preparation".

Where there was an experience of stress connected to "conflict with physicians", "problems with peers", "problems with supervisors", all of these dimensions induced stress in nurse's relations with others team members (*i.e.* if the nurse's team had disagreements, then this was seen to be reflected in all of the other dimensions) and correlated with each other. Also, the nurses' teams experienced stress when "problems with peers" and "problems with supervisors" connected to experienced stress in situations with "workload", "uncertainty concerning treatment" and "patients and their families".

The teams experienced stress concerning "inadequate prepa-

ration" which correlated with stress when having "problems with peers", "problems with supervisors", and "workload" and "uncertainty concerning treatments". Teams also experienced stress connected to "uncertainty concerning treatment", which in-turn caused more stress relating to dealing with "patients and their families" (see Table 3).

In order to group the nurses' teams according to their stress levels, cluster analyses were conducted. These revealed different stress profiles for different teams, based on their common features in various clusters. The four cluster model was chosen (see Figure 1). The difference between the clusters assessing each component of stress was seen as statistically significant ($F[27,193] = 1.30$, $p < .001$, Wilk's $\Lambda = 0.07$, partial $\eta^2 = 0.59$).

Table 3. Correlations between the sub-categories of stress ($n_{nurses\ teams} = 29^{***}$)

		Death and dying	Conflict with physicians	Inadequate preparation	Problems with peers	Problems with supervisors	Workload	Uncertainty concerning treatment	Patients and their families	Discrimination
Death and dying	Pearson Correlation	1								
	Sig. (2-tailed)									
Conflict with physicians	Pearson Correlation	0.492**	1							
	Sig. (2-tailed)	.007								
Inadequate preparation	Pearson Correlation	0.298	0.517**	1						
	Sig. (2-tailed)	.116	.004							
Problems with peers	Pearson Correlation	0.330	0.574**	0.518**	1					
	Sig. (2-tailed)	.081	.001	.004						
Problems with supervisors	Pearson Correlation	0.305	0.586**	0.654**	0.590**	1				
	Sig. (2-tailed)	.107	.001	< .001	.001					
Workload	Pearson Correlation	0.233	0.378*	0.532**	0.599**	0.561**	1			
	Sig. (2-tailed)	.223	.043	.003	.001	.002				
Uncertainty concerning treatment	Pearson Correlation	0.713**	0.634**	0.531**	0.524**	0.640**	0.559**	1		
	Sig. (2-tailed)	< .001	< .001	.003	.004	< .001	.002			
Patients and their families	Pearson Correlation	0.696**	0.521**	0.460*	0.408*	0.560**	0.456*	0.720**	1	
	Sig. (2-tailed)	< .001	.004	.012	.028	.002	.013	< .001		
Discrimination	Pearson Correlation	0.325	0.184	0.296	0.120	0.011	0.097	0.238	0.240	1
	Sig. (2-tailed)	.106	.368	.142	.559	.958	.637	.241	.238	

Note. * Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the .01 level (2-tailed); *** n = 26 only in sub-category of Discrimination
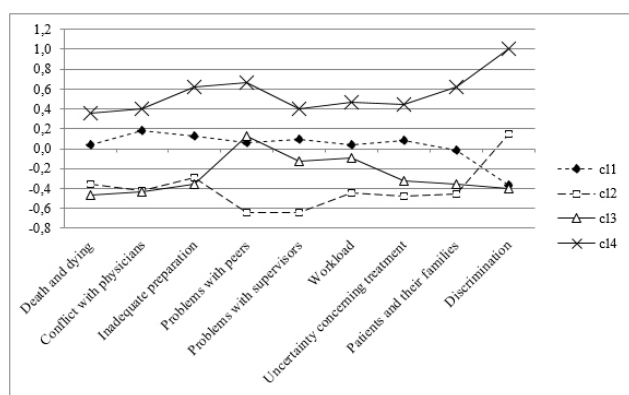

Figure 1. Examples of the stress profiles of nurses' teams distributed among four clusters

Teams falling in the first cluster (cl1, n = 10) were characterized by an average stress level. Teams falling in the second

cluster (cl2, n = 6) showed a low level of stress. Teams falling in the third cluster (cl3, n = 7) were characterized by a relatively low level of stress caused by "death and dying", "conflict with physicians", "inadequate preparation", "patients and their families", and average stress relating to "problems with peers", "problems with supervisors" and stress caused by "workload". Teams falling in the fourth cluster (cl4, n = 3) showed a high level of stress in all of the identified stress dimensions.

Figure 2 illustrates the cluster distribution of teams comparing two dimensions of stress - "inadequate preparation" and "problem with supervisors". The figure depicts different symbols belonging to different clusters teams. The first cluster (cl1) denotes teams in which nurses experienced average levels of stress due to "inadequate preparation" and "problems with supervisors". The third cluster (cl3) distinguished teams

in which stress caused by "inadequate preparation" was relatively low, and stress relating to "problems with supervisors" was seen as average.
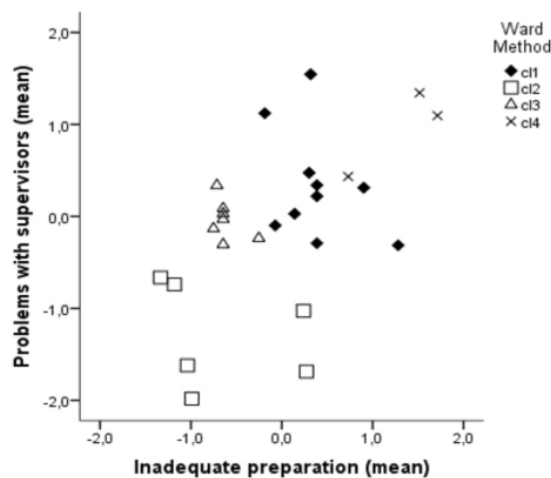

Figure 2. The correlation between areas of "inadequate preparation" and "problems with supervisors"

4. DISCUSSION

The strength of this study is that the participants represented all of the primary health care centres operating in one Lithuanian county with a staffing level of ≥ 6, and altogether, 29 teams participated. These results may therefore be considered as being possibly representative of the situation of bigger health care centres within the country. Although the sampling ratio (sampling fraction) in this study was 32% of the target population, this could still be considered as a limitation of this study. A further limitation is that the instrument used has been developed to measure stress at the individual level and not at the team level.

The results of this study showed the different variations in nurses' experienced stress that exist between teams working in primary health care. Nurses from larger and smaller primary health care teams participated in the study. Whilst larger teams come from larger health care centres which may offer more collegial support outside of the nurses' team; in smaller centres, teams may possibly feel as if they are left to work more in isolation. Therefore, it is important that smaller teams are given a wider colleague network in which to interact. According to Laschinger,[31] working with supportive colleagues who respect each other's contribution to the patient care process can however go a long way in dealing with the stressors that arise in today's stressful health care environments.

The larger nurses teams showed they experienced more stress concerning their workload. This can be explained by the fact

that that these teams were from larger health care centres with a commensurately large number of community members. In the large health care centres of Lithuania, workload ratio (client/worker) is bigger compared with smaller centres. Nurse team members with an older age and longer duration of work experience in health care reported increased levels of experienced stress connected to inadequate preparation. This may be somewhat unexpected because we could assume that the longer a person has worked, the more prepared they are to cope with stressful events. However, it may be that older nurses are more sensitive when encountering stressful situations and do not know how to manage them effectively. Different findings concerned with different age groups have also been found, and studies by Kirkcaldy and Martin[11] and Lee and Wang[12] found that younger public health nurses with a shorter duration of work experience also perceive a higher level of occupational stress.

When evaluating the correlations between the sub-categories of teams' stress, a strong positive correlation (significant at the .01 level, 2-tailed) was found between all of the subcategory areas, except for that of "discrimination". In the context of this study, discrimination could be understood by primary health care nurses as a dimension not connected with work relations (*e.g.* gender, nationality, and race). This seems quite expected while clients of the primary health care nurses are quite heterogenous.

The study results showed that teams which experienced stress connected to "conflict with physicians" have correlations with "uncertainty concerning treatments" and "inadequate preparation". If the team experience stress with the physician, then it also seems to experience stress in other areas such as an "uncertainty concerning treatments" and "inadequate preparation". This presents a challenge for management as to how primary health care centres may be developed to work on a more multi-professional basis. The core issue seems to be develop effective communication between physicians and other health care professionals, however difficulties in interprofessional interaction have been cited as one of the problems which Lithuanian health care currently faces.[25]

Where there was an experience of stress connected to "conflict with physicians", "problems with peers", or "problems with supervisors", all of these dimensions induced stress in the nurses' relations with others. Thus Rushmore[27] reported that nurses are willing to collaborate in teamwork. This is also important for Lithuanian primary health care nurses, because they continue to work in a traditional hierarchical relationship with family physicians.[23] Likewise Mellor[34] says that team meetings and training for managers on identifying and managing stress are important, but this does not

take place in Lithuania primary health care centres in general.

In this study, it was found that teams experienced stress concerning "inadequate preparation" connected with stress when having "problems with peers", "problems with supervisors", and as well as with "workload" and their "uncertainty concerning treatments". According to Pinikahana and Happell,[14] "workload" was the highest perceived stressor followed by "inadequate preparation" for rural psychiatric nurses. Also district nurses reported most stressful aspects work overload and a lack of teamwork with other departments.[15]

This study found different stress profiles. According to similarities in stress experiences, the teams represent different cluster types. The variation between these stress profiles shows the differences between the experienced stresses found among teams. Three of the teams falling in the fourth cluster (*cl*4) showed a high level of stress in all of the identified stress dimensions, whilst others showed an average or low stress level. This variation should be noticed by managers when developing and supporting improvements in the working lives of nurses.

5. CONCLUSIONS

In particular, interventions that will help build interpersonal relationships, develop conflict resolution skills, and which develop our understanding of the role that effective teamwork has in lessening work-related stress are required.

There are several implications for nurse managers which should be highlighted based on this study. Managers should be aware of the variation of experienced stress among nurses working in different teams in the primary health care sector. It is critical to create an environment that can engender team effectiveness through team building. In order for managers to help nursing teams, an appropriate and relevant evaluation of what happens in the teams is essential, and this includes coverage of those elements and characteristics that relate to work-related stress in the nursing environment. Our analysis showed that there were a group of teams (a cluster) with a high level of stress in all of the identified stress dimensions, so this urges managers to act immediately. However, there were also teams showing an average or low stress level, and this variation should be noticed by managers when developing and supporting improvements in the working lives of nurses. The situation for the manager with teams with different cluster profiles presents difficult challenges in their everyday management work. For the evaluation of the present situation among teams, a regular system of longitudinal evaluation is central.

CONFLICTS OF INTEREST DISCLOSURE

The authors declare that they have no competing interests.

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Organizational social context in primary health care

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Organizational social context in primary health care

Abstract

The recognition and assessment of organizational social context (culture, climate and morale) is particularly valuable in primary health care. Both culture and climate have been shown to be associated with work morale and predict job satisfaction, organizational commitment and voluntary turnover of employees in nursing.

This study aims to describe the social contexts of primary health care centers from the view point of health care professionals.

A descriptive study using an Organizational Social Context instrument for data collection was undertaken. From 29 teams in 18 public primary care centers of one Lithuanian county, 344 health care professionals participated.

The results of study showed that different organizational cultures, climates and levels of morale existed in primary health care centers, at both team and organizational levels. The differences between teams were significant in culture rigidity and resistance. Climate differences were found at both team and organization levels in regard to stress and functionality. A variance of about 7% in work morale was seen in teams and organizations.

Managers should recognize the different kinds of social contexts in which teams work, in order to get them to co-work efficiently in evidence based primary care settings.

Keywords: health care professionals, morale, organizational culture, organizational climate, primary health care.

Introduction

Organizational social context consists of three dimensions: organizational culture, organizational climate, and work attitudes (morale).[1] Organizational culture and organizational climate are the two key constructs of existing research on organizational social context, yet have very much lived separate lives within their own disciplines and traditions.[2] A work attitude is an individual-level construct that includes job satisfaction and organizational commitment, which together capture the morale of the workforce.[3] Our study describes the organizational social context in primary health care using organizational culture, organizational climate and work attitudes (morale).

Organizational social context is thought to be useful in explaining how organizations influence the behavior, attitudes and well-being of members, why some organizations are more innovative and quicker to adopt new technologies, and why some organizations are more successful than others.[1] So-called constructive organizational cultures have been found to promote and support innovation, whereas defensive cultures appear to hamper innovation.[4] Culture is also purported to be associated with climate. Defensive cultures seem to add to the probability of alienation, emotional exhaustion, work load and experienced disagreement;[1] however, Bosch et al. reported no associations between organizational culture, team climate and patient outcomes[5].

The delivery of health care services today therefore demands person-centeredness, flexibility, innovation, teamwork and a constructive organizational culture.

The recognition and assessment of organizational culture is particularly valuable in health care, as it addresses the therapeutic milieu, thereby creating the potential to maximize service, quality, and outcomes for both healthcare providers and the recipients of care.[6] Several studies suggest that organizations establish the social context for services, as organizational social contexts directly affect service quality and outcomes.[1,7]

Background

Organizational culture, climate and morale

In literature we have numerous definitions of organizational culture and climate. Some studies reported that these two concepts are different, whilst some see them as more or less overlapping.[8] In this study the concepts organizational culture and climate are held in clear contrast to each other: organizational culture being the way things are done in organizations, and organizational climate being the way members of organizations perceive and experience their work environment.[2] These are distinct constructs of the human services environment. According to Glisson and James,[1] a climate consisting of individual experiences is based on individuals and is a psychological attribute, whereas culture is clearly an attribute of an organization and thus an attribute of a system or collective.

Culture is defined as normative beliefs and shared behavioral expectations in an organizational unit. These beliefs and expectations prescribe the way work is approached and are the basis for socializing coworkers in the way things are done in the organization. Organizational culture captures expectations, and values what is important in a specific organization. These expectations and values are either implicitly or explicitly expressed in

the behavior of fellow workers, and have the capacity to socialize members of the organizations who may seek to behave in ways that meet the expectations of their workplace.[7]

Organizational climate is based on psychological climate.[9] Psychological climate is to some extent socially influenced by the collective social construction of acquired meanings of the work environment, which leads to the accommodation of one's interpretive standards. It is plausible that especially when new ambiguous events are encountered, a need for discussing them arises.[10] The psychological climate experienced by members of the organization appears to be related to working attitudes (morale).[11] Work attitudes are measured by job satisfaction and organizational commitment, and together compose the morale of the service providers who work in the organization.[3] Patients can expect to be taken care of by a team which has a high morale. High worker morale has been associated with workplace stability, supportive managers and clear roles, while low morale has been associated with insufficient staffing levels, high levels of verbal abuse, risk of violence, and of workers feeling they have no voice in the workplace.[12]

Looking broadly at worker morale, literature links the content with job satisfaction[13] or with some level of organizational commitment.[4,14] The literature also provides combinations of factors related to stress,[15] including turnover with worker burnout, resilience, and emotional exhaustion.[13,16]

Over the last decade, fewer studies have been interested in culture, climate or morale in primary health care. For example Rostila et al. conducted a study of social context in

primary health care in Finland.[10] Although evidence for the possible relevance of teamwork and culture is growing, most evidence for these intuitively appealing concepts is based on studies in hospital settings.[5] Nowadays, primary health care is inconceivable as anything other than a competently functioning health care team,[17] and health care professionals are increasingly aware that interprofessional collaboration and effective team communication are essential for improved patient care and safety.[18]

Internationally, both climate and culture have been shown to predict job satisfaction, organizational commitment and the voluntary turnover of employees in nursing and various types of caring work. In primary health care it has been noted that climate differs in regard to functionality and engagement, and differences were bigger in terms of climate than those in culture.[1,10] Organizational climate and services have been seen to differ between child welfare service systems and this may explain the variance in service system outcomes. Systems with more engaged organizational climates had significantly better outcomes and fewer services to children were provided in stressful climates.[19]

Culture and leadership were the most important factors in predicting climate in primary care teams. The lack of relationships found between most organizational factors and team climate suggests that interpersonal aspects of teamwork override organizational aspects, and that individuals who commit to working in this environment will engage in teamwork regardless of other environmental factors.[20] The association of organizational culture and climate with individual work attitudes (morale) may differ depending on the clinical context and between clinicians.[21]

Primary health care

In health care, organizational changes are continuous. From the late 1990s, all countries in the Baltic region were trying to improve primary health care and implement reforms to rationalize their health care systems. The most intensive reforms were introduced in Estonia, Latvia, Lithuania, Poland, and also in some regions of Russia.[22] The main focuses of primary health care reform following Lithuanian independence were decentralization and the strengthening inter-professional collaboration.[23] Following these reforms, the number of primary health care institutions markedly changed with the amount of primary health care centres increased 2.4 fold and private sector oncreased 34 fold. Such reorganization of primary health care system however, not changed the work relationships. Lithuanian primary health care professionals continued to work in a traditional hierarchical relationship.[24]

Aim

The aim of this study was to describe the social contexts (organizational culture, climate and morale) in the primary health care centers from the viewpoint of health care professionals.

Methods

Instrument

The Organizational Social Context (OSC) measurement system[1] was used to assess the key characteristics of culture, climate and morale. The questionnaire consisted of background factors and the OSC instrument. The background questions were demographic (age,

gender, education, qualification and year of qualification), and work related (work experience in health care, in primary health care, and present organization, current position in organization, clients groups worked with, and the specialized area in which they worked as a team member).

The OSC measurement system is guided by a model of social context that comprises both organizational (structure and culture) and individual (work attitudes and behavior) level constructs, including individual and shared perceptions (climate) that are believed to mediate the impact of the organization on the individual.[1] The OSC measurement system includes 105 items.[25] The instrument includes three dimensions: organizational culture (42 items), organizational climate (46 items) and morale (17 items). Culture is structured as rigidity (14 items: e.g. 'I have to ask a supervisor or coordinator before I do almost anything'; 'We usually work under the same circumstances day to day'), proficiency (15 items: e.g. 'Members in my organization are expected to have up-to-date knowledge'; 'Members in my organization are expected to act in the best interest of each client') and resistance (13 items: e.g. 'Members in my organization are expected to avoid being different'; 'Members in my organization are expected to be stern and unyielding'). *Rigid* culture allows service providers only a small amount of discretion or flexibility in their activities, with the majority of controls coming from strict bureaucratic rules and regulations. *Proficient* cultures place the health and well-being of each client first and service providers will be competent, working to meet the unique needs of individual clients with the most recent available knowledge. *Resistant* cultures are described as service providers showing little interest in change or in new ways of providing service and will suppress any change efforts with criticism and apathy.[26]

Climate was measured by stress (20 items: e.g. 'How often do your coworkers show signs of stress?'; 'No matter how much I do, there is always more to be done'), engagement (11 items: e.g. 'I can easily create a relaxed atmosphere with clients I serve'; 'I have accomplished many worthwhile things in this job') and functionality (15 items: e.g. 'I understand how my performance will be evaluated'; 'My job responsibilities are clearly defined'). *Stressful* climates are characterized by employee perceptions that they are emotionally exhausted by their work and are unable to accomplish the necessary tasks at hand. *Engaged* climates are characterized by employee perceptions that they are personally able to accomplish many worthwhile things and remain personally involved in their work and concerned about their clients. *Functional* climates are characterized by employee perceptions that they receive the cooperation and help they need from coworkers and administrators to do a good job, and that they have clear understanding of how they fit in and can work successfully within the organization.[26]

Morale (17 items: e.g. 'I am willing to put in a great deal of effort in order to help this organization be successful'; 'I find that my values and the organization's values are very similar') consisted of commitment to the organization and satisfaction with job. These criteria include the morale of service providers, service quality, and service outcomes as represented by improvements in the well-being of service recipients.[26] A five-point Likert scale was used to assess the characteristics of culture, climate and morale, with a score of 1 meaning *not at all* and 5 *to a very large extent*.

The OSC was translated using back-translation.[27] During the translation process the translations of the instrument were discussed between the researcher, translators and

specialists (nurse, psychologist, social worker, manager). A Lithuanian language teacher was consulted to confirm the validity of translation. Before data collection, the questionnaire was piloted with four teams of health care professionals from three different health care centers in different counties than the one under investigation. In total, 59 health care professionals completed the pilot questionnaire. On the basis of the pilot test, some minor linguistic changes were made.

The instrument has been found to be reliable and valid in previous studies conducted in the US and Finland.[10,25,28] In our study the Cronbach's alpha values for culture were 0.86 (rigidity), 0.89 (proficiency) and 0.94 (resistance). For climate the values were 0.89 (stress), 0.91 (engagement) and 0.89 (functionality). For work attitudes (morale) the value was 0.88.

Data collection

The data was collected between August 2009 and January 2010 among all health care professionals from all state primary health care centers (18 organizations) of one purposefully selected county in Lithuania ($N = 1096$: nurses 579; physicians 316; other 201)**.** Questionnaires were completed during working hours in 29 health professional team meetings, which were organized in conjunction with the researcher. The participants were informed about the confidentiality of information and they gave written consent. The questionnaire took about 25–30 minutes to complete. Individually completed questionnaires in sealed envelopes were returned to the researcher who was present during the data collection meeting.

Ethical approvals from the directors of primary health care centers were obtained and from the Ethical Committee of the Faculty of Health Sciences. The research addressed all ethical considerations.[29]

Data analysis

The analysis was carried out using IBM SPSS Statistics version 21. Descriptive statistics were firstly calculated for all variables. An index of within-group consistency of responses and single-item r_{wg} was computed for each of the four constructs that describe characteristics of the groups. r_{wg} shows how members of the team agreed in evaluation of one or other component. If all group members are in perfect agreement, they assign the same rating to the target, and the observed variance is 0, $r_{wg}=1$. In contrast, when all group members are in total disagreement, the observed variance will asymptotically approach the error variance obtained from the theoretical null distribution and $r_{wg}=0$.[30] Values of .70 and over have been reported as indicating acceptance agreement among responses according to the instrument developers.[1,3]

Between-group differences were calculated using the intraclass correlation coefficient (ICC) and eta-squared. The ICC (type 1) computed via a random intercepts model indicates the proportion of total variance that is between groups, and eta-squared indicates the proportion of total variation or sums of squares that is between groups. Hierarchical cluster analysis cluster methods (Ward's Squared Euclidean distance) were used for culture and climate profile grouping.

Results

Three hundred and forty-four health care professionals (nurses, physicians, physiotherapists, psychologists, dentists, dental assistants, midwifes) from 29 teams of primary health care professionals 18 different organizations participated in this study (31 % response rate). The number of members in one team varied from 6–24. A team was understood to be a group of employees having a common task and a common space providing daily social contact among members in the health care centre. About half of the respondents were nurses and one third physicians; half were over 50 years old and one fifth had worked > 30 years in the same organization that they worked in during data collection (Table 1).

Table 1. Demographic characteristics of respondents (n=344)

Characteristics	n (%)
Age (n=336)	
≤ 40	65 (19.3)
41-50	101 (30.1)
≥ 51	170 (50.6)
Gender (n=343)	
Women	328 (95.6)
Men	15 (4.4)
Length of work experience in health care (years) (n=342)	
≤ 10	32 (9.3)
11-20	59 (17.2)
21-30	111 (32.5)
31-40	123 (36)
≥ 40	17 (5)
Length of work experience in primary health care (years) (n=323)	
≤ 10	76 (23.5)
11-20	89 (27.5)
21-30	90 (27.9)
≥ 30	69 (21.1)
Length of work experience in present organization (n=315)	
≤ 10	81 (25.7)
11-20	88 (28)
21-30	88 (28)
≥ 30	58 (18.3)
Current position at organization (n=344)	
General practice nurse	80 (23.2)
Head nurse	17 (5)
Community nurse	81 (23.5)
Physician	106 (30.8)
Midwife	9 (2.6)
Physiotherapist	12 (3.5)
Dentist	8 (2.3)
Dental Assistant	16 (4.7)
Other	15 (4.4)

The estimates of r_{wg} at both team and organization levels were clearly above the critical

value of 0.70. Within teams (within organizations), the estimates varied for rigidity

between 0.70 and 0.97 (0.72–0.97), for proficiency between 0.71 and 0.98 (same), for resistance between 0.86 and 0.98 (same), for stress between 0.75 and 0.99 (0.76–0.99), for engagement between 0.80 and 0.99 (0.84–0.96), for functionality 0.69 and 0.98 (0.82–0.98), and morale 0.81 and 0.94 (0.83–0.94). These estimates of agreement indicate the existence of a team and organization level climate and culture, and justify using the means of individual level measurements of culture and climate as measures of group level culture and climate.

Differences in organizational culture, climate and morale between primary health care teams and primary health care centers (organizations) are presented in Table 2. The means (T-scale) show the variation of culture, climate and morale differences between teams and organizations.

Table 2. Differences of organizational culture, climate and morale between and within the teams and organizations (n = 344)

	Variance		F	p	ICC	Eta Squared	*Means (T-scale)	
							Min	Max
Teams (n=29)								
Rigidity/structure	Between Teams	1.50	1.57	0.04	0.06	0.12	41.4	58.8
	Within Teams	0.96						
Proficiency	Between Teams	1.31	1.35	0.12	0.04	0.11	38.4	57.4
	Within Teams	0.97						
Resistance	Between Teams	1.71	1,82	0.01	0.08	0.14	40.9	61.0
	Within Teams	0.94						
Stress	Between Teams	2.07	2,29	<0.01	0.12	0.17	42.2	58.9
	Within Teams	0.91						
Engagement	Between Teams	1.31	1,35	0.12	0.04	0.11	40.7	58.2
	Within Teams	0.97						
Functionality	Between Teams	1.87	2,03	<0.01	0.10	0.15	35.5	56.8
	Within Teams	0.92						
Work attitudes/morale	Between Teams	1.33	1,37	0.11	0.04	0.11	38.3	57.9
	Within Teams	0.97						
Organizations (n=18)								
Rigidity/structure	Between Organizations	2.00	2.11	0.01	0.10	0.10	41.4	58.8
	Within Organizations	0.95						
Proficiency	Between Organizations	1.70	1.76	0.03	0.07	0.08	38.4	55.7
	Within Organizations	0.96						
Resistance	Between Organizations	2.42	2.61	<0.01	0.13	0.12	41,1	59.3
	Within Organizations	0.93						
Stress	Between Organizations	2.90	3.22	<0.01	0.17	0.14	42.2	58.5
	Within Organizations	0.90						
Engagement	Between Organizations	1.86	1.95	0.1	0.08	0.09	40.7	58.2
	Within Organizations	0.96						
Functionality	Between Organizations	2.45	2.65	<0.01	0.14	0.12	35.5	54.9
	Within Organizations	0.93						
Work attitudes/morale	Between Organizations	1.56	1.61	0.06	0.06	0.08	38.3	57.9
	Within Organizations	0.97						

*Means (T-scale): variation between teams and organizations

The differences between teams were significant in culture rigidity (structure) and resistance. Significant variations were also found at the upper organization level in the same dimensions, and further variance in proficiency was also significant. There was most variation in culture proficiency and rigidity at team and organization level.

Based on team level background factors, it was found that the culture was more rigid the older the team members were ($r = 0.59$, $p < 0.01$), the longer the length the work experience in health care ($r = 0.65$, $p < 0.01$), the longer their length the work experience in the present organization ($r = 0.43$, $p < 0.05$) and the more resistant was the culture ($r = 0.41$, $p < 0.05$). Related to organizational level background factors, no statistically significant results were found.

Climate differs between team and organization levels concerning stress and functionality. Similar results were found within team and organization levels, the variation being largest in engagement. Based on the team level and organizational level background factors, no statistically significant results were found related to climate dimensions.

Differences in variations in climate were bigger than those seen in culture between teams and organizations. Resistance and functionality differed most at both team and organization levels. The culture and climate profiles varied among the teams. Data is presented using T-scale (mean 50, standard deviation – 10). Examples of these are presented in Figure 1 and Figure 2.
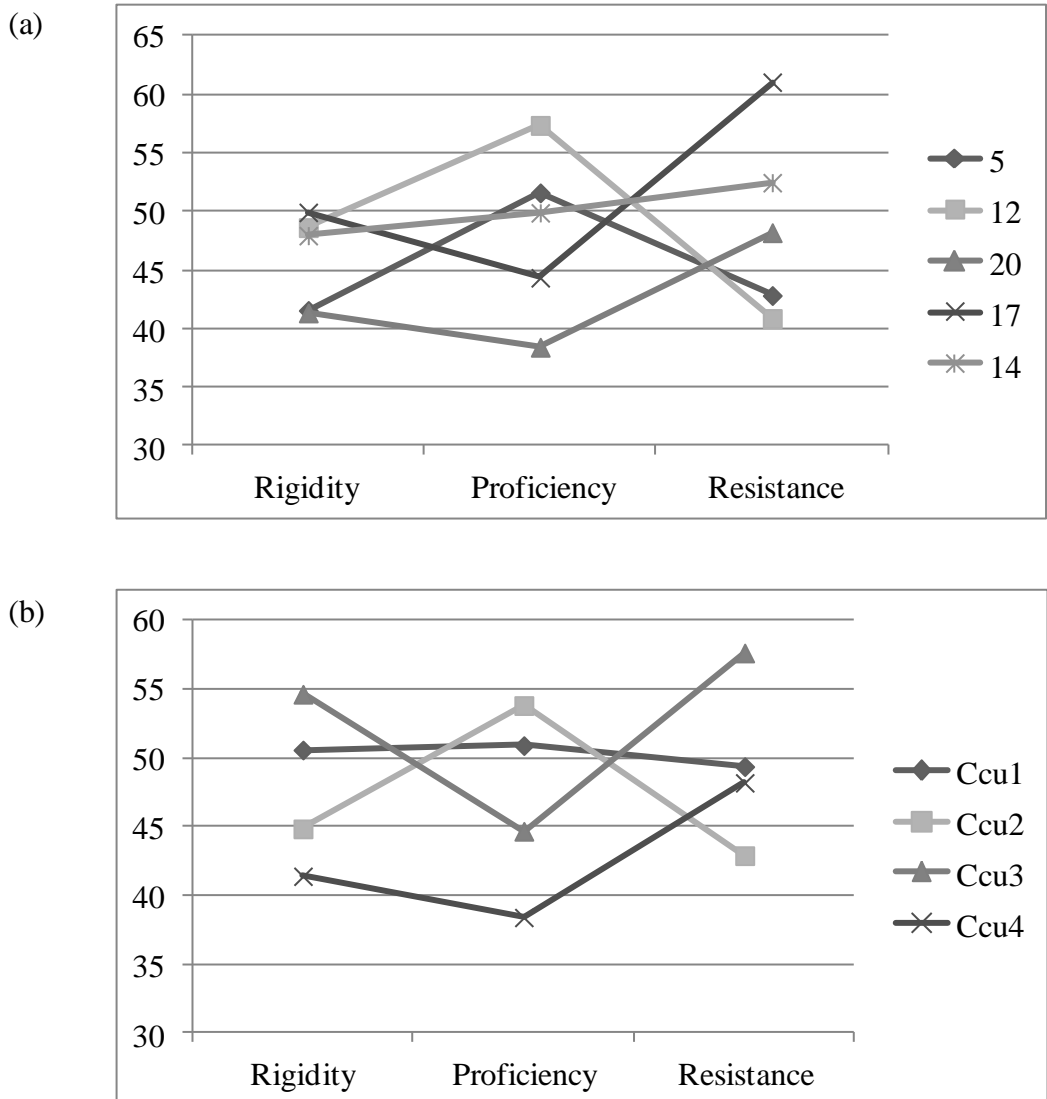
Figure 1. Examples of culture profiles from primary health care centers and different clusters between teams (n=29). (a) examples of culture profiles, (b) culture profiles grouped into four clusters.

In Figure 1a, when comparing culture profiles with other teams, team number five is characterized by relatively low (compared with a sample average) 'rigidity', medium 'proficiency' and low 'resistance'. Team number 17 however, shows medium 'rigidity', low 'proficiency' and high 'resistance'. The culture profiles can also be grouped into four different clusters. It seems that one profile represents the profile with a moderate level of culture dimensions while the other profiles show variation between low, moderate and high

levels of different culture dimensions (Figure 1b). Age, and length of work experience in health care, primary care, and in present organization all were statistically significantly ($p < 0.001$) related to the different culture profiles.
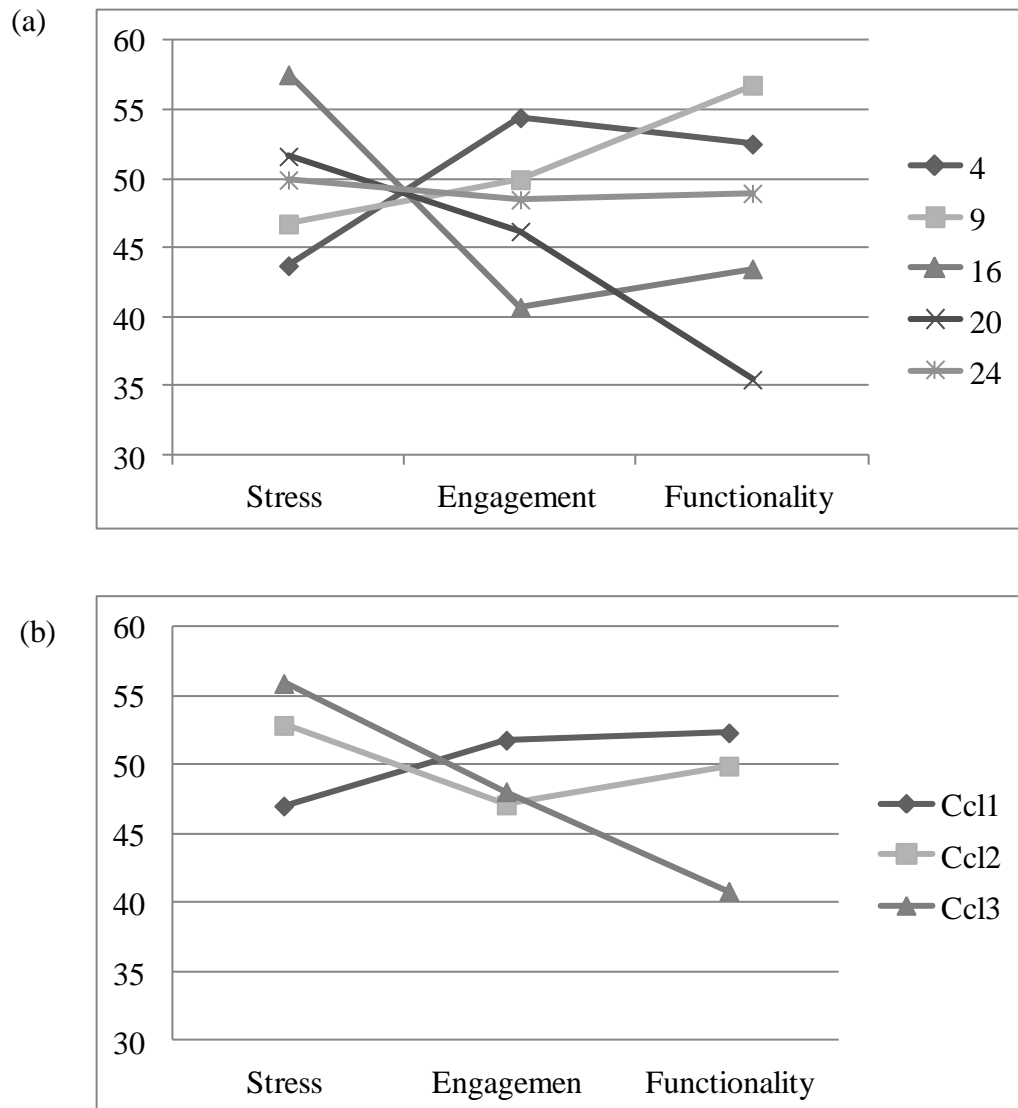
(a)

(b)

Figure 2. Examples of climate profiles from primary health care centers and different clusters between teams (n=29). (a) examples of climate profiles, (b) climate profiles grouped into three clusters.

Comparing the examples of climate profiles: team number 20 is characterized by high 'stress', medium 'engagement' and relatively low (compared with a sample average)

'functionality'. Team four, however, shows low 'stress', high 'engagement' and high 'functionality' (Figure 2a). The climate profiles can be grouped in three different clusters. One profile clearly shows the connection of high stress to low functionality. The other team profiles do not show the same kind of clear relationship of stress with other climate dimensions (Figure 2b). Lengths of work experience in primary health care were connected ($p < 0.005$) with the climate clusters and as well the length of work experience in the organization ($p < 0.001$). About 7% of the variance in work morale was seen in teams and organizations. Based on the background factors at team and organizational level, no statistically significant results were found.

Discussion

This study describes the social contexts in primary health centres in the Baltic country of Lithuania. Evaluating the study results we can state that different organizational culture, climate and morale exist at both organizational and team levels. This has been seldom previously reported in the European primary health care context.[10] Differences between teams, however, have been reported in several studies.[3,11,25]

Based on our results, variation between teams was seen terms of rigidity and resistance. Additionally, however, Rostila et al.[10] found a variation in terms of proficiency that was not found in our study. Our results show that when the average age of team members was greater, with longer work experience in health care and longer work experience in their present organization, a more rigid culture was found. Glisson[26] described rigid culture as a culture which allows service providers a small amount of discretion or flexibility in their activities, with the majority of controls coming from strict bureaucratic rules and

regulations. It can be explained that the implementation of health care reform in Lithuania has not changed the traditional relationships between health care professionals as quickly as expected. As Jaruseviciene et al.[24] have stated, community nurses (who are the biggest group of primary health care professionals) mainly continued acting as physicians' assistants and continued to work in a traditional hierarchical relationship with general practitioners.

Climate differences we found at both team and organizational level concerning stress, but in the Finnish context[10] this was only at the organizational level. As in a previous study[10], climate was found to differ also in terms of functionality at team and organizational level. Engagement variation among Lithuanian primary health care teams was considerable at both the organizational and team level – a result which has not been previously noted.[10] Climate stress variation at group level has, however, been reported in other studies in public health[10] and also in hospitals.[28] Climate difference concerning functionality was also seen in the results of a study by Rostila et al.[10] where they investigated the social context in public health and social services.

It was interesting to find that variation levels were larger in climate than culture (measuring the way things are done in the organizations),[2] as has also been noted for example in Finland. What does this reveal? Is it perhaps that organizational norms and values may not be influenced by recent developments as much as climate in various countries and cultural contexts? Hierarchical management systems may maintain the stability of cultural dimensions. If we want to manage the primary health process holistically, then we need less rigid cultures. This presents quite a challenge to managers, bearing in mind that many

teams in this study were quite old and had worked in primary health care and in their present organization for quite a long time.

Differences in variations in climate were larger than in culture between teams and organizations, and functionality differed most heavily at team and organization level. Rostila et al.[10] found that differences in functionality were of approximately equal size in home aid and health care at organizational level (about a quarter of the variance of perceptions of functionality).

The psychological climate experienced by members of the organization appears to be related to working attitudes (morale).[11] Morale consisted of a commitment to the organization and satisfaction with the job. These criteria include the morale of service providers, service quality, and service outcomes as represented by improvements in the wellbeing of those who receive the services.[26] Variation in work morale was about 7% in the teams and organizations in this study, and Rostila et al.[10] have previously reported that about 8% of the variance in work morale was associated with the work unit. Glisson et al.[25] stated that less rigid and more proficient cultures were associated with higher clinician morale, but resistant cultures were not associated with morale. Also, more functional climates were positively associated with higher health care worker morale, but stressful climates were not associated with morale.[11]

More knowledge is needed regarding the social context (and its implications) of the primary healthcare setting, as many changes have taken place in regard to service structures, technology, client choice, service enterprises etc. The contribution of management in this context also calls for further exploration. To achieve this, in-depth

research is required to identify models that might explain the functionality of the service system. This is important to contribute knowledge for quality purposes, and also to benefit the health service system and its patients, especially in regard to safety.

Some methodological considerations of this study should be addressed. The instrument used in this research has been previously found to be reliable, and to offer a valid measurement of the organizational social context. The instrument was piloted in the Lithuanian context. To guarantee an equal provision of information for participants, the researcher personally organized the group meetings, informed the participants about the study verbally and with written information, and collected the resultant data. While all of the health care professionals in the studied sites were asked to participate, a limitation exists in that some teams had fewer participants. However, the criteria for using the instrument were fulfilled. The requirement is to have a minimum of six group members in a team, and only primary health care centres with more than six health care professionals were involved in this study.[1] A total of 29 teams participated, and the number of members in each team varied between 6 and 24.

Conclusions

The issue of how we handle the increasing economic challenges in health care is central to the success of primary health care. One core element is how the workplace's social context supports us in achieving the best possible outcomes from the viewpoint of clients, workers and the organization. It is important to determine whether there are obstacles in this social context which hinder our best possible performance, and unnecessarily cause a situation where clients need to seek help from services other than primary health care.

Managers should recognize different kinds of social context among teams to enable them to co-work efficiently in evidence-based primary care settings. Whether the culture is resistant or constructive in a certain unit, managers need to use different implementation strategies, e.g. when supporting the use of a new electronic recording system, or when deciding whether some changes in the tasks shared between nurses and physicians are needed. The largest variation, which was in engagement, urges the managers to evaluate their subordinate   groups' engagement while it is obvious not all teams gain the same outcomes in their work.

In primary health care it is especially important to support those teams in which the average age is quite high and who have a long work experience in the present organization. It is really challenging to the managers to support the teams to keep their enthusiasm to work. Thus we may reconsider rotating staff. With a stable staff situation, it is challenging to create an innovative culture and supportive climate. One challenge for the future may therefore be how to best integrate new staff members to these teams, keeping in mind that staff recruitment is generally difficult across the whole health care sector.

Cultural and climate differences among the teams and organizations of primary health care raise a challenge for managers looking for new ways to organize and support their workers. The culture may have mechanisms in place that are not being perceived (climate) as working or effective. In future we should consider more culture and climate relations to received outcomes.

Author contributions

NG,TS, PA and IR conceived and designed the study. NG and SB performed data collection and analysis. NG, TS and PA drafted the manuscript. TS, PA, PG and IR critically reviewed the paper for important intellectual contents. All authors read and approved the manuscript.

Conflict of interest

The authors declare that there is no conflict of interest.

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