Posttraumatic Stress Disorder Experienced by Military Nurses

A Qualitative Literature Review

Ondrej Skramlik

Degree Thesis in Health Care and Social Welfare, Vasa

Education: Nurse, Bachelor of Health Care

Vaasa/ 2017

BACHELOR'S THESIS

Author: Ondrej Skramlik

Education and place: Nurse, Vaasa

Supervisor:Marlene Gädda

Title: Posttraumatic Stress Disorder Experienced by Military Nurses

Date: November 2017 Number of pages: 35

Summary

The aim of the study is to map out what helps military nurses in combat zone to stay healthy when they are exposed to risk of Posttraumatic Stress Disorder.

The method used for the study is a qualitative literature review. The study is based on data material in the book *Nurses in War: Voices From Iraq and Afghanistan* by Elizabeth Scannell-Desch and Ellen Doherty.

The book provides comprehensive and very recent data material which provides for study valuable look into the reality of the deployment experience and is appreciated by military nursing research community.

The author does recognize that there are studies available describing the Posttraumatic Stress Disorder at war veterans though. Nevertheless, the above mentioned book appears as the most recent material of extreme valuability and validity as it concernes war nurses.

For the purpose of this study it has been chosen Salutogenesis approach as the most suitable. It is believed that for the war nurse it is important to stay healthy rather than get affected by PTSD. During the study it is investigated what stressors the nurse are exposed to and how they develop their ability to stay healthy.

Language: English Key words: Posttraumatic Stress Disorder, Salutogenesis, war nurses

Contents

1. Introduction

A nurse working in a war zone faces many situations a nurse at a hospital does not meet. The nursing in war environment is different from the peace time nursing in almost every moment.

> *"….I had my 9-millimeter handgun in my shoulder holster, even in the operating room. I never took it off. Not only did I never take it off, I always had a clif of bullets loaded in it." (Michelle)*
>
> "*…Sometimes I´d have to go out in a helicopter to pick up injured troops … Soldiers provided cover so I could treat their wounded buddy in the fields…*
> *…There was a boom and I went flying in the air. I landed on my patient. He says, ´Are you OK?´I said, ´Yeah I´m ready to go´…" (Olivia)*
>
> (Scannell-Desch, Doherty, 2012, 50, 119-122)

These are just a couple of quotations from the book which is unique of its kind. The book *Nurses in War* attracted my attention as a breakthrough in war nursing literature and a stepping stone in my study about the Posttraumatic Stress Syndrome at military nurses.

Posttraumatic Stress Syndrome (PTSD) is a psychiatric disorder that occur at any point following a traumatic event or a threatening one which involves affective, behavioural, cognitive, physiologic and relational symptoms as well as dissociative symptoms and traumatic flashbacks and impair normal functioning (O´Brien, Kennedy, Ballard, 2008, 573)

As a nursing student I put a special interest on a Posttraumatic Stress Disorder after a war experience. There is a family history connected to the PTSD. My father had been war reporter in Sarajevo in 1990s when there was a civil war. He told me once about his traumatical experience. Since then, he had developped sleeping disorder accompanied with symptoms such as flashbacks and nightmares. Besides PTSD mental nursing is not a primary area of interest of mine.

I study nursing to become an emergency and acute care nurse. Military nurses work as emergency nurses, flight nurses when they evacuate patients from combat zone, as intensive care nurses in long-haul flights of severly wounded soldiers. The nature of injuries and trauma suffered by the troops are often of the same nature of those which ambulance and emergency nurses care for in civil setting. Their original nursing specializations back home are mainly intensive care nurse, emergency nurse, anesthetist nurse etc. Even though the skills and knowledge do not differ, combat experience brings about additional and specific stressors which makes military nursing so unique. (Stierle, 2012, ix)

The intended my principle area of expertise and my future career of nurse together with interest fed with the family history of PTSD brought about my interest in PTSD of war nurses. They unite both of my areas of interest.

The aim of the study is to further explore the PTSD and how it affects the specific group of people who are war nurses. As nurses they are specialized in highly demanded nursing specializations which makes them especially appreciated in military setting. Hence, their exposition to the stressors which may bring about their getting affected with the PTSD.

In this study I strive to gain understanding to the specific circumstances of military nurses who served in wars in Iraq and Afghanistan. Through narrative stories I would outline the coping strategies the nurses opted for to use to prevent posttraumatic stress disorder.

Nurses who have been deployed in wars are, as I believe in various conflicts all over the world. The intention was to focus on the most recent available study material clustering the knowledge about the recent or ongoing conflicts. The two biggest and most informed about are war in Iraq and Afghanistan which provides me with a very narrative and resourceful material.

The most comprehensive source of my data material became the book which has been written by American nurses. It is also a book written by an author who has been a military nurse. The above mentioned *Nurses In War* is relevant source of knowledge which provided me with valuable material.

2. Background

The number of military nurses serving in war has been growing continuously. The deployments, prolonged deployments and re-deployments together with other factors of military service puts a number of specific challenges on them. (Conard, Sauls, 2013, 1)

In this part, I focus on the signs and symptoms of the Posttraumatic Stress Disorder and the specific symptoms and possible trigger events that affect war nurses. Besides the focus on PTSD as a mental health issue, it is been paid attention on the specificities of the war nurses and what they experience. I mention training for deployment and living conditions that nurses face during their deployments.

Further in this chapter, the challenges a female nurse during her deployment are discussed. The role of women in war nursing is notably signifacant and deserve further attention.

2.1. War Nursing

Stock (2017, 238) stated that nurses are exposed to factors that challenge their sense of integrity and wellbeing. This results in increased level of stress and burnout. These factors affect the nurses´ clinical performance, subsequently the patient care etc. It results in nursing turnover and healthcare cost increase. (Stock, 2017, 238)

The nursing care provided by the military nurses is similar to the care provided by civilian nurses. During peacetime they work in the conditions comparable to the most of their civilian colleagues. They maitain their skills and knowledge which allows them to be ready for the mission. The specificity of the war nursing is the setting in which it is provided when deployed. The combat adds distinct stressors to the nurses they already have to cope with. (Stierle, 2012, ix-x)

Since the times of Florence Nightingale, women filled in fundamental role in war nursing and it has remained so ever since. Women only served as nurses in all major conflicts since included WWII and Korea War and they made up majority in Nurse Corps in Vietnam War. (Feczer, Bjorklund, 2009, 281)

Ancient sources mention that it was men, munks who started caring for ill and suffering. For two thousand years nursing was considered a male profession.The change began with the beginning of modern warfare about two hundred years ago. In the beginning of the modern nursing the women took part. Due to the male population was decimated by wars, women´s role grew up. Women Nurse Corps was formed in 1901 and it was formed uniquely by women nurses. It was only after Korean War in 1955 when first male nurses were accepted into Nurse Corps. (allnurses.com, 2006)

Hence, when talking about war nurses, it is necessary to mention the role of women in war nursing. The extending role of women picture the numbers of injured and killed. Approximately 144 female service members have been killed, and over 850 have been injured during their deployments to the second Iraqi War between 2003 and 2011 (Department of Defense, 2012).

Conard and Sauls (2013, 2) mention studies, where women nurses´ inherence of the work during deployment is described and which pictures their experience. They quoted that women serving as nurses or other healthcare providers may get personally and emotionally involved in their inner conflicts as they take for inherent taking care for injured and sick in a combat zone and when seing dying and dead. (Conard, Sauls, 2013,2, Compvoets, 2011).

Numbers of of women in deployment have risen and continue rising significantly since the start of the Gulf War II (2003). As presence of women in deployments in Iraq and Afghanistan is growing, that brings multiple and, or extended deployments. Nowadays, the range of roles occupied by women is much wider than just the role of nurses though. (Conard and Sauls, 2013, 1-2)

2.1.1. Military nurses

In this study, the focus is on the war nurses deployed in Iraq and Afghanistan. The two armed conflicts, Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) are the two most recent conflicts which provide us with most up-to-date and biggest body of evidence-based literature relevant for the purpose of this study about war nursing. Therefore, the war nurses in this study are represented by U.S. military nurses as in the two conflicts presence of the United States armed forces is well documented. (Stierle, 2012, x)

Nurse as a military career have had a long history. The first U.S. Army Nurse Corps on a permanent basis was founded in 1901. Navy Nurses were established in 1908. The first military nurses were uniquely women until first men nurses were accepted after the Korean War in 1955. (allnurses.com, 2006)

In the U.S. Army the nurses can serve as a soldier or an officer on a full time basis or as a Reserve member on a part-time basis. Army Reserve is a pool of personnel which is in professions in high demand for the Army. They have their own profession which they perform in civil and they are available for the need of the Army for the deployment. Reserve members spend one weekend per month on duty and two weeks per year on training. The Reserve nurses who have been deployed went through 4 month extra pre-deployment training. The training course included both medical and combat intensive training. (goarmy.com, 2015)

Army Reserve nurses undergo two week training in year in an Army medical unit. They can benefit from Reserve Officer Training Corps (ROTC) college schollarship which they can use to study for their future nursing profession.(work.chron.com, 2017)

Full-time military nurses have their own system of training. Future active duty nurses who have not joined the army yet can also benefit from ROTC for their nursing studies and they join army after graduation. (goarmy.com, 2016)

2.1.2. Training of nurses for deployment

At the beginning of modern nursing, during Crimean War, Florence Nightingale and her colleague were not trained for the combat deployment as they were actually not considered as combat nurses. Later, in Vietnam war, the difference between combat and not combat personnel were wiped out as there were not habitual front lines. The lack of appropriate deployment training and equipment for the nurses as they set off for Vietnam with their typical nursing uniforms and no combat gear, yet they were exposed to mortars and insurgent attacks. (Feczer and Bjorklund 2009,281)

Deployment training for the nurses taking part of OIF and OAF service members are trained in same weapon training as troops. Military nurses are provided with pre-deployment combat training for active duty soldiers, it takes 4 week pre-deployment training in California Mojave Desert. (classroom.synonym.com, 2017). Military nurses are trained before their deployment in specialized pre-deployment programs which have been developped in universities and they follow Army guidelines. They get specialized casualty care for the deployment on the battlefield. (Parish, 2007, 12) (Trossman, 2011, 7)

The nurses preparing for the deployment recruit from different nursing areas and their competences can vary. Nevertheless, some specific skills are in higher demand more than in civilian nursing.

Critical Care and Trauma nurse

In order to achieve same competencies in trauma and critical care for all deployed nurses a special training program has been developped.
The training program known as C-STARS training program was conceived in Shock Trauma Center in University of Maryland. It is designed in accordance with Air Force trauma care guidelines. (Trossman, 2011, 7)

Flight Nurse

Flight nurses are nurses serving in intensive care unit helicopters as well as in long-haul evacuation flights. They are trained in emergency, prehospital and critical care.
Nowadays, flight nurses can be found in civilian settings too. Nevertheless, it was the military need which stands at the origin of the specialization though.

The flight nurse as a nursing profession was entirely occupied by military nurses. The need for nurses trained in aeromedical evacuation had risen in the 1930s and finally gave birth to the military School of Air Evacuation in Kentucky in 1942. Flight nurses care for trauma patients but they are also skilled in other emergencies. The circumstances demand nurses with ability of critical thinking but also advanced skills. Flight nurses need to perform advanced medical procedures, such as intubation without a direct supervision of a doctor. Usually, the flight nurse works only with another nurse or a paramedical technician and there is no doctor on the plane. (Jones, Young, 2004, 10-11)

2.1.3. Deployment Setting

The nurses are deployed together with combat units in areas affected by war need to be ready to live in a military base or other military compound in a foreign country. They often mention difficult living conditions (climatic conditions, harsh living facilities) and loss of privacy. Nurses are at the same position as other military as it comes to extended tours and multiple deployments. It is mainly due to the fact that Army, Navy and Air Force became fully professional and do not count any more on conscripts as it was the case in the past. Therefore, most of the nurses are deployed several times during their career and their assignments are quite often extended during the time of the ongoing deployment. Conard and Sauls (2014,2)

Some stressors typical for deployment which nurses indicate are boredom at the base, and inadequate availability of supplies or equipment. Along with those, they indicate family separation, the need to think about their children who need to be taken care of back home, as well as their own parents, as a suplementary stressors. The women nurses experience that separation as extremely challenging. (Conard, Sauls, 2014, 2)

Alongside with the circumstances typical for the deployment that every soldier has to cope with, there are stressors typical for the war nursing. Feczer and Bjorklund remind together with features such as sights of death, and traumatic injuries, some significant for nursing. Those stressors are characteristic smells of dead bodies, infected wounds, blood and sweat. (Feczer, Bjorklund, 2009, 282)

Deployed veterans related about their life in desert. In Iraq, the presence of sand was inevitable. The sand got everywhere in their living facilities. They could not see any trees during the duration of their mission. Some nurses in Afghanistan quoted that desert was not just sand but more than anything else the area was barren dirt and rock. They noticed that dirt was ubiquitous. (Patterson, 2011, 11)

As they lived in plywood huts with aluminium roof, tents and container units, the nurses share their space with their colleague nurses and sleep on bunk beds. They need to walk some of a distance to shower or bathroom. The huts they live in are not well insulated and they are exposed to harsh climate. Too hot inside in summer, very cold

in winter, where air-conditioning was not always available or working. The shower-taking is due to a 3 minutes rule. They ate, especially at the remote places food from cans MRE (Meals Ready to Eat). (Scannell-Desch, Doherty, 2012, 65-85; Nekola, 2017)

Some veterans indicated they felt no privacy at all. Some developped sleeping disorders as sleeping after the shift was extremely difficult due to constant noise at the base and in the quarters. The military base resounds with the of combat, mortars or an airfield. Air bases were penetrated with smell of the airplane fuel. This smell was mixed to waste and burn smell as mobile latrine unit sewage as well as garbage had to be burned. (Scannell-Desch, Doherty, 2012, 65-85; Nekola, 2017)

2.2. Nurses involved in humanitarian organizations

This study is dealing with the problematic of nurses who are deployed in areas affected by war. The author has focused mainly on military war nurses. However, it is appropriate to note in this study that there are places where nurses serve in zones by armed conflicts, yet they are not military. They serve in international humanitarian organizations. There is a handful of humanitarian organizations who are founded with purpose to aid victims of war.

One of them is Médecins Sans Frontieres (MSF) – Doctors Without Boundaries in English. MSF is an international humanitarian organization. They focus namely on delivering emergency medical and humatiarian aid to people who are affected by armed conflict, epidemics, natural disaster and other distress of health care. The organization was founded in 1971 in Paris, France. Nurses work in the rangs of MSF, they are welcome in case of being graduated and having completed a course of tropical medecine. They work in many countries in world, many of them. The Medecins manifest their will to hire nurses who are ready to work on deployment and work in war zones for an extended period of time, separated from their families. (msf.org, 2017)

MSF are not the only humanitarian organization focused on aid to people affected by war. International Committee of Red Cross (ICRC) declares as an independent, neutral organization ensuring humanitarian protection and assistance for victims of armed conflict and other situations of violence. The ICRC employs nurses on missions in areas all over the world. Nurses work as a mobile field staff on missions. The ICRC runs its own Training Centre, which focuses in on-site and online training. (icrc.org, 2017)

As an organization, it is much older than MSF. It has been established after signing Conventions of Geneva in 1863. The Red Cross movement started as a movement of relief of victims of war when a Swiss traveller and businessman, Henri Dunant witnessed the battle on Solferino, one of the heaviest battles of the nineteenth century (roteskreuz.at).

2.3. Cultural differences

The deployment in Afghanistan and Iraq brings to the light challenges upon nurses in providing cultural competent nursing. The nurses take care not only for the friendly troops but they also take care for Afghani and Iraqi local people in field hospitals as well as for the enemy. (Parish, 2007, 12; Patterson 2011, 11, Trossman, 2011, 7)

Ansuya (2012, 5) reminded that it is a basic duty of a nurse to provide cultural competent care to patient. Nelson mentioned that Leininger outlined in her Culture Care theory that nurses need to understand cultural differences as well as commonalities in beliefs,values, and practices. They need to use this knowledge in culturally competent nursing care. (Nelson, 2006, 50).

Nurses deployed in Afghanistan related about seing local women wearing burka, which is a scarf used to cover hair of muslim women. The population in Iraq and Afghanistan are of Muslim religion. The people religious confession in these countries is playing a major role in their lives. Moreover, Afghanistan is ethnically and culturally very diverse country. Amongst many ethnic groups, speaking different languages the religion is their strongest bound between them. (state.gov, 2010)

Some ethnical groups in Afghanistan fight against each other and there are ethnical tensions between them. Diverse ethnical groups hold different opinions on Americans and Europeans too. Some hate them as others like welcome Americans as freedom messengers. Besides ethnical and cultural diversity, the religious aspect is also very challenging. In Afghanistan most of the people are Sunni Muslims but the Shia population makes up to 20%. On the other hand, the Shia have 65% majority in Iraq as well as Sunnis are also numerous. (salem-news.com, 2008)

Besides cultural and ethnic diversity in Iraq and Afghanistan there are also cultural differences between local and European and American culture. Namely, lack of education and prejudice. (salem-news.com, 2008)

Nurses deployed in Iraq and Afghanistan related about having to struggle with prejudice of the local people while taking care for them. They faced parents whose lack of knowledge or cautiousness lead to their children´s injuries. The local people were convinced that the Americans can heal everything and they could not understand that it is not true. (Scannell-Desch, Doherty, 2012, 65-85)

2.4. Posttraumatic Stress Disorder (PTSD)

Posttraumatic Stress Disorder is an anxiety disorder which people develop after being exposed to a traumatic event. (Feczer,Bjorklund, 2009,278; Dunn et al., 2011, 493)

Posttraumatic Stress Syndrome (PTSD) is a psychiatric disorder that occur at any point following a traumatic event or a threatening one which involves affective, behavioural, cognitive, physiologic and relational symptoms as well as dissociative symptoms and traumatic flashbacks and impair normal functioning (O´Brien, Kennedy, Ballard, 2008, 573)

The traumatic event which is for a reason of developping the disorder may involve death, a life-threatening event, or a physical injury. Other examples of trigger events include those like combat experience, a natural disaster, a car accident, or sexual assault. Yet alone kidnapping, being a prisoner of war or witnessing unexpectedly a dead body or its part. (National Center for PTSD, 2016)

PTSD is a relatively common disorder with potentially serious consequences or both the individual and society and as such lead to increased medical expenses. (Hudson et al., 2008, 670) If left untreated, PTSD leaves consequences on the professional and private life, relationships, their families, and society. (Conard, Sauls, 2013, 1). Feczer and Bjorklund (2008, 278) and Hudson et al. (2008, 670) confirm that PTSD is characterized by high comorbidity. They mentioned depression, and substance-related disorders, but it is also social phobia, panic disorder, and other mood and anxiety disorders. (Feczer, Bjorklund, 2009, 278). Other factor that multiplies the dangerousity of the disorder is that a significant proportion of people affected with PTSD do remain undiagnosed because they do not seek mental health services aid. (Dunn et al., 2008, 670)

2.4.1. Symptoms of PTSD

PTSD is characterized by a triad of symptoms. They are re-experiencing, avoidance and hyperarousal.

- The re-experiencing symptoms mean persistent re-experiencing of the traumatic stressor(s) which is accompanied with flashbacks, nightmares, and/or intrusive thoughts.
- The second element of the triad is called avoidance of stimuli that brough about the trauma. Avoidance is accompanied with the numbing of general responsiveness.
- The third symptom group of the triad is characterized by persistent symptoms of increased hyperarousal. (Feczer, Bjorklund, 2009, 278)

O' Brien et al, (2008, 339) claimed that intensive re-experiencing of the traumatic event can lead into hallucinations that can issue into even psychosis.

Dunn et al. (2011, 493) further indicate that growing hyperarousal resulted into increased fear, sentiment of helplessness, or horror. When an individual is diagnosed with PTSD the symptoms have been present for more than 4 weeks and cause distress

or impairment to the patient in his social, occupational, or other areas of functioning. (Dunn et al., (2011, 493)

2.4.2. PTSD of war veterans

Conard and Sauls, (2013, 1) stated that PTSD initiated by a combat experience is one of the most prevalent disorders which numbers are increasing from 0.2% in 2002 to 21.8% in 2008. Hoyt and Candy (2011, 237) state in their study that among veterans of Iraqi Operation of Iraqi Freedom (OIF) and war in Afghanistan – Operation Enduring Freedom (OEF) the PTSD is a prevailing problem. For veterans of those two wars who have sought help of Veteran Affairs (VA) Health Care System, an alarming number of 22 % of returning soldiers are diagnosed with PTSD. The Iraqi and Afghanistan wars veterans returning from their deployment are in greater risk of PTSD and comorbidity since nowadays most of them are deployed multiple times. Along with the main diagnose (PTSD) they display substance abuse and depression comorbidity with PTSD as the veterans return from deployment (Hoyt and Candy, 2011, 238). Veterans Association (ptsd.va.gov, 2016) state that about 11 - 20% of veterans who came from Iraq (OIF) and Afghanistan (OEF) suffer from PTSD within the same year.

2.4.3 Nurses and PTSD

The PTSD at war nurses has been well documented since the begining of modern nursing. Nurses were not spared neither from combat exposure neither from being held as prisoners of war. It is known that in different conflicts the serving members have some remarkably similar war experiences. Some studies showed that from WWII on, nurses experienced similar annoyances they had to cope with. They count for example, difficult living conditions (climatic conditions, harsh living facilities) and sights of death, and traumatic injuries, as well as sounds (engines and airfield sounds, shooting, explosions), and smells (dead bodies, infected wounds, blood, sweat). (Feczer, Bjorklund, 2009, 281-282)

Feczer and Bjorklund (2009, 282) quote one of the most interesting findings what experienced US Navy military healthcare personnel in war in Iraq and Afghanistan and what triggered the development of PTSD and depressive symptoms. Their findings were that frequent exposure to wounded and dead military and civilians was not the most decisive factor in the development of PTSD or depression of OIF and OEF veterans. When we compare Vietnam War veterans to OIF/OEF nurses we can state some differences in developing PTSD symptoms. In Vietnam war, the main reason for PTSD of war nurses indeed was caring for the dying wounded soldiers. In Afghanistan and Iraqi war, more than 90% of wounded survived due to better protection of soldiers and development in medical care. On the other hand the soldiers remained seriously affected with multiple amputations, severe burns etc. It was not exposure to the dead and wounded bodies but the fact the nurses had to witness the severly affected soldiers´ suffering, feeling of helplesness grows that lead to development of the PTSD symptoms. (Feczer, Bjorklund, 2009, 282)

It is proved that, women are the group with among fastest growing rate of PTSD diagnosed among new users of VA Health Care Services. It is due to growing numbers of women deployes in Iraq and. In several studies it has been stated that women develop PTSD as twice more often as men veterans. In more recent studies it is indicated that a prevalence of PTSD in male and female veterans are not distinctively different. (Haskell et al., 2012, 267-271)

Feczer and Bjorklund (2009, 279-280) state that only 11,9 % of deployed women were exposed to combat but 58.4% met criteria for PTSD. They mention several studies which proved that more than 90% of women that receive VA treatment for stress disorders or PTSD had a history of sexual distress during the military service and between 43 to 51% had been sexually assaulted.

Haskell et al., (2010, 268) claim that it was exposure to sexual stress that was probably a more decisive factor in the development of PTSD than combat exposure at female veterans. They find that the women prove to be more vulnerable to Military Sexual Trauma (MST) which increases vulnerability to PTSD. However, they stated that women after return from Iraq and Afghanistan indicate higher prevalence of depression and Military Sexual Trauma (MST). It is proved that female veterans suffering from MST are related to increased prevalence of substance abuse and depression. (Haskell et al., 2010, 268)

MST is any sexual harassment or sexual assault that happens when the person is in the military. It can happen to both men and women and can occur during peacetime, training, or war. Military Sexual Trauma (MST) is one of the most important reasons why the OIF/OAF veterans develop the posttraumatic stress disorder . VA stated MST together with a combat experience as one of the most serious reasons for the PTSD at OIF/OAF veterans. VA admit that there is about half of patients affected with MST are men but it is due to the fact that there are more men then women in military. Up to 38% of men who receive VA health care help have been sexually harassed when in military, women count up for 55%. Of all women who have been treated in VA Health Care System, 23% of them reported being sexually assaulted. (ptsd.va.gov, 2016)

3. Theoretical Framework

The study works with salutogenesis and logotherapy. As a principal model for this study the salutogenic model was chosen. Alongside with salutogenesis – a theory of logotherapy has been chosen as a theoretical background. Logotherapy was chosen as it had influenced the author of salutogenesis as we discuss in this chapter.

The theoretical model which is based upon in this work is Salutogenesis, formed by Aaron Antonovsky (1996). Antonovsky developped that it would be a greater benefit to focus on studying how to stay healthy (salutogenesis) rather than to heal and eliminate the origins of disease (pathogenesis). (Griffiths, 2000, 32)

The purpose of the study is to find understanding how the nurses cope to stay healthy while exposed to stressors in the circumstances they are in deployment in a zone affected by war. Hence, the salutogenesis has been chosen as theoretical framework within I develop my study on the coping with the stressors of deployment.

“He who has a why to live for can bear almost any how.”
Nietzsche

3.1. Salutogenesis

Salutogenesis was conceived as a concept of stress-coping, oriented on resources which a man facing situation can use in purpose to cope. (Kelly, Hauck, Thomas, 2016, 6). The paradigm of salutogenesis was created Israeli-American professor of sociology Aaron Antonovsky in late 1970s. It encompasses origins (genesis) of health (salut) and the exploration of methods to achieve optimal health. (medical-dictionary.com, 2017)

Antonovsky´s model of *salutogenesis* focuses on wellbeing and support human health rather than to eliminate factors causing disease. Stock (2017, 238) highlights Antonovsky´s concept as suitable for the nurses to thrive in stressful settings.

A core of the salutogenetic model is the sense of coherence (SOC). The SOC expresses how consistent a person perceives. Antonovsky (1996, 15) further stated that the stronger the SOC the person has developped, the stronger his ability to cope with stress. The SOC has three main components: comprehensibility, manageability and meaningfulness. Comprehensibility is referred to ability to assess and to understand the situation. (Antonovsky 1996, 15, Lezwijn et al., 2010, 45)

Lezwijn et al. (2010, 45) understand meaningfulness as an extent to which a person is motivated and has desire to cope with situations they are facing. Antonovsky defined that once the person had achieved the values of meaningfulness - motivation and wish to cope – the individual takes the situations he faces as a challenge. It is aware that the coping has meaning. (Antonovsky, 1996, 15)

Manageability reflects belief of the person that sufficient resources to resolve the problems are existing and able to possess to. (Stock, 2017, 238; Antonovsky, 1996, 15)

As a key factor to develop his theory Antonovsky (1996, 15) defined the concept of Generalized Resistance Resources (GRR). Antonovsky named resources as a key feature to develop a strong SOC and promote successful coping of stress and management of tensions. The GRR were determined in the theory as means to promote successful management of tension and stress. They can be for instance: stable system of values, coping strategies, and beliefs or knowledge. Besides those, there can be included elements such as, social support, family or material resources. (Stock, 2017, 238, Lezwijn et al., 2010, 46) Antonovsky said that a strong SOC supported by his GRR is a key to facilitate health and therefore the person is thriving. Antonovsky further

explained how the GRR and life experiences are bond with each other. He came to finding that the resources fostered life experiences, which helped him to understand the world meaningful, manageable and comprehensible. (Stock, 2017, 239).

Lezwijn et al. (2010, 44-46) further explained the concept of GRR as more complex. They define that GRRs can be of three different natures. They can be

a) biological resources, like for example genes, intelligence and immune functioning;
b) material resources, like money and the house in which people live;
c) psychosocial resources, like knowledge, capacities, traditions, upbringing, life experiences, social network and marital status.

They (Lezwijn et al., 2010, 44-46) point out that in order to promote health it is important how people use GRR. This is where SOC plays an important role. Thus, SOC reflects the interaction between the inner and the outer stimuli and, the way he understands the balance between them. The way, how the individual understands this interaction determines the understandability. The authors understand SOC, as a global orientation in which one feels confidence within understandability, manageability and meaningfulness are generated. (Lezwijn et al. 2010, 44-46)

3.2. Logotherapy

Logotherapy is a model conceived by the Austrian-Jewish psychiatrist and a survivor of holocaust. Word *logotherap*y comes from greek *logos* (meaning) and therapy. The model was first published in German language in 1946, in English first in 1962 under title *Man´s Searching for Meaning* (Frankl, 2006, 98). Sometimes called as The Third Viennese School of Psychotherapy, (Frankl, 2006, 98) the model focuses on meaning as a primary motivation in one´s life. The author strives to achieve satisfaction through his will to meaning as a value, which is worth living for and to die for. (Frankl, 2006, 99)

As a purpose of *logotherapy*, author stated assisting the patient to find meaning in his life. He claims that a state of striving for a worthwhile goal rather than an equilibrium or homeostasis is the fuel of one´s life. Frankl calls it existential dynamics or *noö-dynamics*. That helps fill existential vacuum and fight neurosis. *Noödynamics* itself is labelled as a positive tension as a necessary to find mental health. (Frankl, 2008, 103-107) In order to achieve and fulfil this meaning, there are three concepts on which the theory is based: Freedom of Will, Will to Meaning, and Meaning in Life. (Batthyany, 2017)

3.3 Influence of Logotherapy on Salutogenesis

Griffiths stated (2010, 25-27) that similarities between the theories of Frankl and Antonovsky exist, for example, both stress the importance of self-responsibility. Frankl claimed that people should respond to the demands of life by being responsible for

their own lives. As it appears, the two authors were influenced by the same influences during the Second World War. (Griffiths, 2010, 25-26)

They were both interested in terms of concerning health, stress, coping, and life meaning. When they witnessed (Frankl) and learned about (Antonovsky) holocaust, when millions of people found death in the Nazi concentration camps both asked the same question:

How did those people manage to survive despite all this? Why do some people cope with stressful situations, while others do not?
(Griffiths, 2012, 26)

Antonovsky admitted that he had been influenced by Frankl in developing of his concept of SOC. Frankl influenced Antonovsky in point of view of the meaning. Griffiths, 2012, 26)

Frankl mentions a positive tension, Noö-dynamics which he expresses as constant will to move forward, searching for meaning, searching for a strength to move forward with positive tension of Noö-dynamics which comes from inside. (Frankl, 103-107)

Antovsky and Frankl both mentioned the importance of self-responsibility. Frankl stated that people should respond to the demands of life by being responsible for their own lives. Some terms mentioned in logotherapy, relationships and creativity are identified as the resistance resources (GRR) in Antonovsky´s paradigm. The two authors also share their points of view at stress response as they both say about stress coping mechanisms that low levels of meaningfulness and SOC are source of vulnerability and strong levels providing resilience. (Griffiths, 2012, 26-27)

A principal difference between the two authors is that Frankl adopted a more pathogenic approach. He thrives to identify causes of disease and treat them. Antonovsky focuses in his Salutogenic model on a goal to identify what contributes to health in order to promote that. Frankl focuses only on meaningfulness as Antonovsky‘s concept is broader. It has two more factors in addition to meaningfulness to explain individual stress reactions and coping – comprehensibility and manageability. (Griffiths, 2010, 25-27)

4. Aim and Problem Definition

The purpose of the study is to gain understanding to the specific circumstances of deployed military nurses who served in wars in Iraq and Afghanistan. The aim is to through narrative stories outline the specific coping strategies the nurses use to prevent posttraumatic stress disorder.

The problem definition as it is:

1. **How do nurses describe the coping strategies they use to avoid PTSD**
2. **How do nurses describe the specific circumstance the military nurses are in**

5 Method - Qualitative approach

In nursing research, there are two main approaches, a quantitative method and qualitative approach. In my thesis, a qualitative method is used. Qualitative research is a method when a researcher attempts to investigate phenomena, discover important patterns or relationships in a holistic fashion. During qualitative research, a collection of narrative data is systematically gathered and analysed while opted for a flexible research design. (Polit, Beck, 2012, 272)

The qualitative method has been chosen as suitable in this thesis as I work with narrative data, which is analysed and examined in order to find important patterns which may lead to triggering of PTSD or which help to prevent the disorder at nurses.

5.1 Data Collection

In this thesis narrative material is systematically reviewed. Narrative material is data material which is characterized as accounts by people, which talks about people. It describes events referring to people´s behaviour. It describes also people´s motives to their actions and feelings, as well as interpretation of actions. (Gerrish, Lathlean, 2015, 225)

The data material involved in the study is not gathered by the author himself. I used data material which is included in a book *Nurses in War: Voices from Iraq and Afghanistan* written by Scannell-Desch and Doherty (2012). Most of the literature on war nursing has been published long time ago. On the other hand, most of the recent literature published on PTSD at war veterans does not cover nurses. Hence, my interest turned upon the book Nurses in War. The book, which we have in our hand is therefore very timely. It provides up-to-date picture of the deployment experience, published in time when the nurses are still leaving for and coming from deployment in ongoing wars. (Stierle, 2012, xi)

Military nurses deployed in Iraq and Afghanistan face the same challenges as nurses in civil life such as workload, stress etc. Besides challenges typical for nursing, they experience the similar stressors such which military life encompasses. *Nurses in War* is a special book in a military nursing research point of view as well. Most books involving military nursing, were published a decade or more after the Vietnam or

World War II conflicts. The book investigates the military nursing and, combat nursing which is far distinct from what majority of the society and even civilian nurses understand. (Stierle, 2012, xi)

Scannell-Desch is a retired military nurse with more than 25 years of experience in nursing and leadership positions. Her clinical experience involves positions such as a flight nurse, emergency room and medical-surgical nurse. She is also a nursing researcher and a professor of nursing. She co-authored the book Nurses in War together with her sister Doherty, who is a respected author, nurse researcher and a nurse practitioner. In the book, the authors carried out three qualitative research studies in between 2003 to 2010 in order to investigate the circumstances of deployment in the eye of the military nurses. They started their research in form of three studies with 37 military (33 women and 4 men) nurses who volunteered to relate on their deployments in Iraq and Afghanistan. The first study focused on living and working in warzone. Besides, the authors examined the nurses´ homecoming and readjustment at home and at work, as well as in their communities. As most of the nurses were women, the second study focused on women´s health and hygiene. From initial 33, only 24 nurses were able take part of the second study. The third study focused on parental separation for the nurses who had children. The researchers took as important aspect of deployment the separation, which deserves further research. (Scannell-Desch, Doherty, 2012, xiv)

The method, which authors of the book use is Colaizzi´s phenomenological method in all three studies. Phenomenology is the study which examines a human experience from the perspective of the human who lived a particular phenomenon i.e. war hospital working experience, taking care of children who were injured during combats or losing a friend or colleague. The phenomenology uses both descriptive and interpretive method. The value which phenomenology appreciates is the importance to look at the phenomena through lens of the human who lived the experience. (Scannell-Desch, Doherty, 2012, xiv)

5.2 Data Analysis

Applied systematic review is applied in this study. Systematic review is a review of the evidence on a formulated question. In systematic review, a goal is to identify and assess a primary research and to extract and analyse data. (Gerrish, Lathlean, 2015, 336)

I use a systematic review as a method when making critical evaluation and summarization of literature within the topic, which is circumstance faced by nurses at war. In this thesis the author is analysing data from the primary research conducted by Scannell-Desch and Doherty (2012). The primary research, which is included in their book *Nurses in War. Voices from Iraq and Afghanistan*. The authors of the book investigate the circumstance of the deployment. In this thesis the data is reviewed to find answer to research problem of this thesis, which is how they cope to avoid PTSD.

The data material is analyzed in a deductive content analysis. Deductive approach is applied while analyzing the data. Deduction is a process where theory is tested through collection of data and analysis (Gerish, Lathlean, 2015, 584).

Elo and Kyngäs (2007, 108) related that the content analysis is a method of analysing documents which allows researcher to test theoretical issues and to enhance understanding of a phenomena. Deductive content analysis is used when existing data is tested in new context.

The narrative material gathered by Scannell-Desch and Doherty (2012) and explored in a research that did not involve investigation of PTSD. Their data material is in this thesis exploited here and examined in a new context. In deductive content analysis, when the data is gathered, a categorization matrix is developed. In the matrix, the data regrouped in creating categories regarding the content. They had grouped following aspects that bound them together. Each category is called by name that best characterizes it by its content. After the categories are defined, the data is further divided into subcategories. At the end of the organizing phase process abstraction takes place. Abstraction determines a general description of the topic through the categories. Events and elements are grouped as much as possible in a way that the elements belonging to the same category are bound together. (Elo, Kyngäs, 2007, 111)
For the analysis of this work, the following matrix is constructed. The matrix acts as a guide to search how the war nurses define their SOC and search for meaning in a specific context.

The table 1 shows the examples of analysis in the ongoing process while describing the development of nurses´ SOC.

Table 1. Nurses´ creation of SOC

Comprehensibility	Meaningfulness	Manageability
Patriotism "Every deployment I ever was I volunteered for. I guess you could describe me as patriotic and adventurous" Diane "I joined army reserve after 9/11 attacks. I thought it was time I did something for my country." Vanessa "First of all, I volunteered. I did not want to get activated." Judd **Military background**	**Will to help** "If I could help the Navy by not having to go on another deployment, it would be worth it." Josie "I figured that it was the last time I have this opportunity in the military before I get too old." Judd **Answer to need of expertise**	**Support from the family** "My wife understood. She was in the military for 21 years. I asked her what she would do. She said she would volunteer." Judd "My husband´s supervisors were very supportive. Therefore, he formulated a plan so the kids could get off to school and that worked out great." Marie

"Diana worked for 20 years in Dayton, Ohio. Dayton is home to the U.S. Air Force Base. It is a pro-military and pro-Air Force city." "Yvonne was raised in an Army family. Her siblings and she lived in many places and considered the Army their home." **Family separation** Marie "I had two small children when the attacks of September 11, 2001 occurred. I think I better get out of the reserves." Penny: "I left for Afghanistan with a 5-month-old baby at home."	"We had certain specialities they needed and if your speciality is needed, you volunteer. They needed my speciality in Iraq, so I went to Iraq." Diane "They needed some more senior nurses. They were mostly sending junior nurses and they needed senior-ranking nurses to go to provide the nursing leadership and expert trauma care." Clare	"I was able to talk to my husband every day. He worked on a military base, so we were able to communicate…" Vivian "Mail from home was a positive thing. I emailed them about my experiences. They wrote back supportive messages. They also sent packages of cookies, nuts, deodorant. I got emails and packages from my extended family." Victoria

6. Findings

In this chapter the findings of my analysis is presented. As described, in this work two problem definitions are determined.
The analysis follows the model of Elo and Kyngäs (2007, 110-111). The problem definition in this thesis, figure as the main category themes in the analysis as Elo and Kyngäs (2007, 110-111) proposed. The problem definition provides the main category 1 and 2 for the analysis. Here there are the main categories as determined:

1. **Coping strategies nurses use to avoid PTSD**
2. **Specific circumstance the military nurses are in**

For each of the main categories the categories have been determined during the analysis. Within the frame of each of the categories the related findings are introduced. Under the theme, every finding belonging to the theme, is described and supported by the quotations of the Scannell-Desch and Doherty´s book (2012).

6.1 Coping strategies to avoid PTSD

In this part, the findings of the first main category are explained. The main categories were derived from the Antonovsky´s (1996) model of Salutogenesis. The Antonovsky´s model was chosen for the theoretical framework for this thesis as the nurses deployed in a war zone try to cope with stressors and to avoid PTSD.
The model has been chosen due to the author´s conviction that rather than cope with the disorder it reveals to be more of a benefit when prevent it and stay healthy in order to be well during the deployment and manage to fulfil their mission.The crucial for the keeping the health and coping with the stressors, as Antonovsky says is to develop the Sense of Coherence (SOC). There are three components of SOC – Comprehensibility, Meaningfulness and Manageability. (Antonovsky, 1996, 15)

In this part, I am explaining how the war nurses develop their SOC within the frame of the Antonovsky´s model and how the main components of SOC are perceived in the analysis.

6.1.1 Comprehensibility

Antonovsky (1996, 15) defined the comprehensibility as believe that the challenge is understood. It encompasses the ability to assess the situation and to understand it. Following quotations picture the way the informants assess and apprehend this situation of the deployment and how they reason about it.

a) Patriotism

Many of the deployed nurses deployed voluntarily. They describe themselves as patriotic. Therefore, they understand it belongs to their duty to volunteer. The informants described patriotism the as following:

> *Every deployment I ever was I volunteered for. I guess you could describe me as patriotic and adventurous" Diane*
>
> *"I joined army reserve after 9/11 attacks. I thought it was time I did something for my country." Vanessa*
>
> *"I volunteered because I wanted to provide critical trauma care to our injured troops." Clare*
>
> *"First of all, I volunteered. I did not want to get activated." Judd*

b) Military Background

Others who volunteered are coming from military background. They feel army is part of their life, their family. Military background and patriotism are often observed at the same nurse.

> *Diana worked for 20 years in Dayton, Ohio. Dayton is home to the U.S. Air Force Base. It is a pro-military and pro-Air Force city."*
>
> *"Yvonne was raised in an Army family. Her siblings and she lived in many places and considered the Army their home."*

c) Family separation

The fact that the service members leave for extended period of 12 to 18 months involves also their families. Most of the nurses have families and these families now separated. If one parent deploys the situation has influence on all members of the family. Family separation may also be the reason why some nurses do not volunteer.

> *Marie "I had two small children when the attacks of September 11, 2001 occurred. I think I better get out of the reserves."*
>
> *Penny: "I left for Afghanistan with a 5-month-old baby at home."*

6.1.2 – Meaningfulness

Meaningfulness is explained as wish to cope, be motivated to cope by Antonovsky (1996, 15)

The deployed nurses are aware of the meaning of the circumstances they are in. They are motivated to cope although reasons why they are motivated are depending on the reasons why they joined the army.

a) Will to help - serve the country

The nurses who have described themselves as patriotic and have a strong military background are mostly those who volunteered. They find the meaningfulness of their deployment in helping their colleagues and army. They relate that their volunteering help to prevent sending other nurses to second or third deployment as the military human resources are limited.
Judd volunteered because he thought Army would consider him too old for deployment and he wanted to do his part.

> *"If I could help the Navy by not having to go on another deployment, it would be worth it." Josie*

> *"I figured that it was the last time I have this opportunity in the military before I get too old." Judd*

b) Answer to need of expertise

Amongst nurses who volunteered there are ones who understand the need of army for the seasoned, experienced nurses to guide younger who are willing but lack the desired expertise. Or, others were aware of the need for their own expertise which is particularly in demand in certain kinds of mission or areas.

> *"They needed some more senior nurses. They were mostly sending junior nurses and they needed senior-ranking nurses to go to provide the nursing leadership and expert trauma care." Clare*
> *We had certain specialities they needed and if your speciality is needed, you volunteer. They needed my speciality in Iraq, so I went to Iraq." Diane*

c) Opportunities

Military career offers some opportunities to soldiers. The nurses who joined army for those reasons understand the deployment as part of their career, which they decided to pursue. Thus, there is a meaning to them to join Army and accept the mission to leave to war.

They have opportunities for enhancing their education and career. They benefit from ROTC scholarship, so they do not have to pay for their studies. The nurses who are not active service members have opportunities to enhance their income while being Reserve Army members. Along with their civilian nursing job, the Reserve salary pay

helps to improve their economic situation. Last, some nurses needed to pay their studies and the Army provided them with the necessary means to achieve their goal. Army also gives opportunities to assure better future, i.e. as an Army Reserve member a nurse gets more benefit in form of Army pension.

> *"I had been in the Army Reserve since 1987. I had only 3 years till retirement when I get my promotion to captain. We got mobilized right after that." Marie*
>
> *"Diana welcomed professional and social interactions in military environment as well as educational opportunities to advance her career."*
>
> *"Clare liked the educational opportunities in Navy."*
>
> *"In college, Yvonne received an Army ROTC scholarship to cover her expense of her last 3 years of studies."*
> *"Derek joined the Army Reserve to get money to help pay for nursing school."*

Active service nurses like patriotic Diane, as well as Reserve members like Marie who were young nurses, full of ideas and enthusiasm, joined Army as they saw a chance for more exciting life. They found environment where they can enlarge their circle of social contacts, meet younger people and experience adventure they are longing for.

> *"I joined because I wanted to earn extra money and meet wider circle of young people".....Marie*
>
> *"I guess you could describe me as patriotic and adventurous." Diane*

6.1.3 - Manageability

Antonovsky (1996, 110) defined the manageability as believe that resources to cope are available (the nurse believing that she can manage). He refers these resources to

Generalized Resistance Resources (GRR)
The resources facilitate successful coping with the stressors and achieve manageability. (Antonovsky, 1996, 15) In this work, GRR are categorized into categories as it follows:

a) Social support

The social support is described as one of the most important resource for many nurses. They often have a family back home. They left their family to cope with the everyday life on their own, which left the deployed nurses worried. Whereas, when they know the family supports them or, when they know that the things are going well at home, it becomes a great asset.
As to the deployment reality, their colleagues and co-workers become a second family, where they provide each other with the necessary support and will to cope.

Support from the family

Military nurses who joined as active members are often patriotic, as well as they are often issue from the family with military background. The partners – military colleagues, mentioned by Judd and Vivian as a tremendous asset as well as support. On the other hand, as can be read from other quotation, the awareness that the family is doing well helps ease the pressure laid on the mother separated from her family.

> *My wife understood. She was in the military for 21 years. I asked her what she would do. She said she would volunteer." Judd*
>
> *"My husband´s supervisors were very supportive. Therefore, he formulated a plan so the kids could get off to school and that worked out great." Marie*
>
> *"I was able to talk to my husband every day. He worked on a military base, so we were able to communicate…" Vivian*
>
> *"Mail from home was a positive thing. I emailed them about my experiences. They wrote back supportive messages. They also sent packages of cookies, nuts, deodorant. I got emails and packages from my extended family." Victoria*

Kinship and bonds – Team Spirit

Military members live with their colleagues on military base. It is a reality which most of the people outside military environment never experience. Being close with their colleagues, helps create a special bond with the other brothers and sisters in arms, as they call themselves. Without it, the deployment would be more stressful than it really is.

> *"I was working out with another officer in charge. She needed a workout partner and it worked out well for us. Also working with the younger troops, the younger people was incredible. I felt I was like a father to some of them." Judd*
>
> *"We stayed up at the night shift when we were not extremely busy with patients keeping each other company. We told lot of stories and talked a lot. We´d always find something to laugh about." Diana*
>
> *"With my roommate, it was a friendship that became deep. Despite we had different viewpoints about some things we were and still are best of friends." Holly*
>
> *"Working with the kids, the younger people was incredible. I was like a dad to some of them." Judd*

b) System of beliefs

Many informants related about the values they hold for important, sense of responsibility and consistency.

Holding up to cultural traditions

In a foreign country, culturally and ethnically different, it reveals important to remind thy own culture, where the nurses are coming from and which they have in common. Keeping traditions together, eating together and singing Christmas songs together were a big deal for them.

"We had Thanksgiving dinner at the base. I will always be able to look back and remember my Thanksgiving and Christmas in Afghanistan." Meaghan

"We had a Halloween party and everybody dressed up. They were a riot!" Alene

Sense of responsibility

There are some nurses who volunteered for deployment because their patriotism and their military background. Not only that, they volunteered for the mission because they felt it as a right thing. Despite they were in military, they had not deployed yet.

> *"Well, I had never been on a ship or seen a war. It was a little embarrassing to be in the Navy for that length of time and never served in a war..." Josie*

c) Activities during time off

The coping strategies part during the time off is the largest part in this part of the GRR. The importance to have some outlet from the pressure and stress inherent in war nursing and family separation is mentioned by all of informants. Such activities bring about the feeling of security, piece of home and calmness to their souls. The range of activities the nurses dedicate to vary from physical to mental activities and from individual to group activities. Group activities reinforce the bonds and feeling of brotherhood as the need take his own time and reflect can reinforce the peace in soul and help nurses cope with pressure and provide important balance from work in a crowded operation room and a life on a busy military base. Mostly, the combination of physical and other activities provided them with full of scale of recreation. There were not nurses who mention only one single activity.

Taking part of the church community activities

The nurses in the study did not develop the issue of their religious confession. On the other hand, some of them mention the importance of taking part of the activities the church community provided. They did not openly express the importance of the religion but they mention the church as a part of the activities during their off-duty, which provide them with outlet from the pressure.

> *"The chapel office offered activities that were such an important outlet. They had church services, discussion groups and social activities." Millie*

Humanitarian and volunteer work

Nurses take their mission to provide care to other people. Some volunteered for humanitarian work, which filled them with good feelings. It also provided the deployed nurses with an important interaction with local people and they could get accustomed to the normal life of the people outside the base, life in the country of their deployment.

> *"We volunteer to do weekly humanitarian missions in the villages. We treated the Iraqi people in the villages. We did a lot to improve the health of the locals. It was a very rewarding aspect of my deployment. We made life better for a lot of people." Tina*

Entertainment and social activities

Important element of life on a base was sports. Not only that team sports activities endorsed the bonds between people but also spectator sports were a morale boost to everyone. It evoked the illusion of being out from the base, on a normal night out, back at home.

> *"Friday night was boxing-night. It was entertainment. We could not drink at the base. So we had happy hour with non-alcoholic beer and boxing matches." Josie*

> *"We expand relationships with other coalition forces. They liked to challenge us to games." Alene*

Sports

To live at a base provides only limited offer to get some outlet from the war and duty stress. Nevertheless, at all bases there were sports facilities. To those who enjoy sports, the working out or jogging reached a new dimension. It provided support from others, reinforced bonds and provided release from the pressure and stress. Running and training were, appreciated as a precious time for oneself too. On small and remote bases, sport was the only thing to do.

> *"Sports provided a big outlet for me. Our volleyball team was a great support for me." Vanessa*

> *"We really enjoyed going to the gym when we were off." Derek*

> *"Physical fitness took on a new value for me. For example when I was feeling kind of down or depressed, I knew it was time to running." Olga*

> *"For many of us at these tiny remote bases, sports activities were a way to pass the time, interact with others outside of our unit and stay in good physical shape." Olga*

Reading, writing journal, enjoying time for myself

After a busy shift, it is a good thing to find balance while having some time for nurse herself. It was time to think about family, future, take time to cool down and relax.

"The simplicity of deployed life was good for me. It gave me time to read, reflect, sorting out what is really important in my life." Trudi

"Reading was a good way to escape." Lisa

d) Material support - Good facilities

Some of the activities became more joy when the facilities were better.

"They had good equipment in the gyms. It was a good distraction and the gym facilities were very good." Derek

Marie "MWR. Morale, Welfare and Recreation. They had a theatre and an ice cream place. The Air Force people always have nicer barracks and facilities."

Yvonne. "In Bagram we had a coffee shop, a Dairy Queen (an ice cream place), and a great fitness facility. They had just added a theatre. I had no complaints with how to spend my off-duty time."

6.2 Specific circumstance the military nurses are in

The life in a military deployment as such brings specific challenges the people in civil life do not come across to. In previous chapter the creation of nurses´ Sense of Coherence is described within the frame of understanding how the coping strategies and the resources are created. In this chapter in turn, the focus is aim at specific stressors the war nurses confronted.

The second problem definition involves the specific circumstance of the deployment the nurses are in. The combat setting and additional and distinct stressors make the war nursing unequalled.

The themes are divided into following categories:
Combat issues, Live at military base issues, and War nursing issues

6.2.1 Combat issues

Although nurses do not participate directly to combat, they are still target to mortar attacks, insurgent attacks and some of them were injured or killed.

"I was hit by a mortar blast. I was hit with shrapnel in the neck. I was just walking from the trauma unit when our compound was hit. I had surgery and was airlifted to the United States for further care." Clare

Josie: "Four of us were jogging on an Afghan army base. An insurgent opened fire. My best friend was instantly killed. I was shot only once and luckily I stayed down and lifeless, so I survived."

"We were mortared in Mosul from the first week I was there. A mortar actualy landed in the container unit five sections from where I lived. Luckily it did not explode." Leah

Few of them even were on the battlefield, taking care of the wounded soldiers.
Olivia: "Sometimes I have to go on a helicopter mission to pick up casualties in the field. The fire fight could be like the length of football field from me. If I was lucky, the wounded person would be carried out of where the fighting was taking place and moved closer to me."

6.2.2 Live at military base issues

Although nurses do not assigned to combat units, they share the same life with their military colleagues.

Family separation

Nurses had to accustom to living without their families, their loving close people for 15 months and more. Without their colleagues, their military family, it would not have been possible. Nonetheless, the absence of the closest one could not been always gapped.
Having a sick family member at home was a stressful situation, which adds on the family separation.
"I am proud to have served but it was the hardest thing in my life to leave my kids and go off to war." Vivian

"I had to take emergency leave as I was notified that my father was dying. He died the day I came home from Iraq. He died later that day. I was glad I made it home." Fran
Olga: "My older sister was diagnosed with breast cancer. I felt guilty about not being with my sister. I was torn between feelings that I was needed in Iraq and that I was needed back in Texas."

Some informants related that their husbands, also soldiers came back from their own deployment and directly had to face another deployment in the family…
"My husband had only been home for 2 months before I deployed. He never had time to decompress before he had to ramp up to take care of the kids." Michelle

…While others were divorced and had to leave their children at home.
Holly: "I left for Iraq in the middle of a very nasty divorce. My daughter was 9 when I left and 11 when I came back. My ex-husband took care of our daughter when I was gone. Actually, he helped as a parent, even though the marriage was over. He is actually a great dad."

Climate and living conditions

Privacy is limited and the bases where the nurses deployed. They are often situated in countries with harsh climate.

Judd related: *"Heat was an added stressor in our living environment. "*

In addition to that, nurses lived in huts, tents or aluminium containers. General lack of privacy while sleeping, showering and even toileting were challenging as well as food did not help ease the mission.

"We ate MREs, meals ready to eat. It tasted like chlorine." Rita

"I lived in what military calls CHU – containerized housing unit. You have probably seen containers on container cargo ships. Well, you take it and pat two windows in it and a door." Judd

"I was one of six women living in the hut. I had to walk outside to shower and to the toilet. I remember cutting back on my fluid intake so I did not have to walk in the freezing night to the latrines." Diana

Most of the nurses were female. The hygiene issues were important to the deployed nurses. They found shower and bathroom facilities dirty, primitive and sometimes they had to clean them themselves. Using toilet was too, very uncomfortable to them.

"What bothered me that it took like 5 minutes to take my body armour off and sit down on the toilet. By that time, I felt sweaty and dirty. It was such a negative experience." Lisa

"It smelled to heaven of urine, urine was on the floor and toilet seat all the time. I was afraid to touch anything in there. I always brought my own roll of toilet paper." Alene

"When we arrived, I literally went weeks on without having a real shower. We were given 6 litres water a day. I learned how to bathe and wash my hair in about a litre water." Victoria
"Working in a dusty hot, dirty environment without a chance to really feel clean was a morale buster." Vivian

Sensations, Smells, Sounds and Sights of War

In war, there is not silence. There are noises of combat, generators, ventilators, alarms etc.

"I could hear mortars every night. They were very loud. I also heard helicopters coming to the base. Mosul was a very loud place. I walked around nauseated." Judd

In the military base, there was smell of raw sewage, burn pits or the burning oil fields. You could smell jet fuel and even people smelled badly.

"In Mosul, there was a lot of open sewage. It literally smelled like a sewer." Judd
"It smelled the acrid smell of the burn pit. It smelled hospital waste, plastic and leftover food… " Suzanne

"The people stunk to heaven. People in Afghanistan do not bathe. When you do not have enough water, you drink it you do not use it for bathing." Richard

Sights of desert were only thing you could see from Iraq. In Afghanistan, you could see mountains around the base.

"I see sand. I see a total desert of sand. It was very fine sand. It was permeating everything. You just couldn´t get clean. It is the consistency of powdered sugar. " Judd
"What I see are the snowcapped mountains, surrounding our base. I see the Afghan local women with the burka. I see grateful children. I see plywood B-huts we lived in and the hospital." Josie

"I see weapons and soldiers. I see convoys arriving with the injured. I see helicopters landing down and injured being carried to the triage area." Olivia

"As far as my thoughts, frustration is a word that comes to mind. Also, futility. It is going to take years and years of rebuilding. It is so backwards… I tell it is like going back 150 years in time and trying to work with people with that mentality to move forward into the 21st century…" Judd

"They did not let the women come into the hospital unless they were escorted by their husband or a male elder from the family. It was frustrating to work with that type of culture." Judd

6.2.3 War Nursing issues

Nurses had to provide highly specialized nursing care such as trauma care, increased demands of time distress and provide in unusual settings such as battlefield, but in combat support hospital or an air evacuation flights.

"Sometimes I´d have to go out in a helicopter to pick up injured troops … Soldiers provided cover so I could treat their wounded buddy in the fields… …There was a boom and I went flying in the air. I landed on my patient. He says, ´Are you OK?´I said, ´Yeah I´m ready to go´…" Olivia

Clare: "I remember my first patient I came to Iraq. He had tourniquet around his extremities as they were blew off in a bomb blast. He said: "please tell my mother and sister I am sorry". Then the doc took the tourniquets off and within 7 seconds he was gone."

"Not knowing the fate of the troops we cared for was frustrating." Tina
Others had to take care for the local people, war prisoners and children.

"We had some detainee patients, little kids caught in firefights, local villagers and many soldiers from U.S. and other coalition forces." Clare
"No one wanted to take care of detainees. We were afraid of them." Vanessa

"Kids were injured by the kerosene stoves, unexploded ordnance and sometimes, by abusive parents." Erin
"I took care for a little girl who was shot in head when bullet went through a window in her house. Was it just a random bullet? Who would do such a thing… I never thought my patients would be children." Marie

7. Discussion of the Result

In my thesis, I aimed to find further understanding how nurses generate their SOC, while finding their Generalized Resistance Resources. As Antonovsky resumed in his theory, the stronger one's SOC is, stronger it is facilitating the movement towards health. (Antonovsky, 1996, 15)

Within the frame of the salutogenesis the movement towards health involves the interaction between inner and outer stimuli as they are together dealt with the aid of GRR, supported by Sense of Coherence. (Lezwijn et al. 2010, 44-46)

This thesis explores specific stressors the nurses cope with and attempts to find understanding how they develop their coping strategies and, SOC. The SOC includes three main elements, the comprehensibility, meaningfulness and manageability.

Antonovsky (1996, 15) defined the comprehensibility as believe that the challenge is understood. Thus, in case the person has developed a strong SOC, the deployment is looked at as a challenge. In the terms of Salutogenesis the situation the understanding of the deployment determines the level Comprehensibility. The nurses in this study understand the situation in which they are, why they are deployed. All nurses make their decision for the military career. Reasons why they decided for their career vary. Some of them volunteered for the deployment. Among the values that influenced the nurses´ comprehensibility, there are and which prevail in the context of the military nurses. Another factor that can influence their SOC is the family separation. The family separation belongs to the complexity of the deployment as the nurses have families. They understand the separation as it is part of their job. The nurses who develop strong SOC perceive the separation as a challenge whereas the patriotism and military background boost the creation of SOC.

Meaningfulness is understood as a motivation to cope (Lezwijn, 2010, 45). In war nurses case the values of patriotism motivate the awareness of the sense of responsibility for the country and to the military colleagues.

The meaningfulness of the participants is motivated by patriotism and by other values. Besides the patriotism, the nurses see the meaningfulness in their deployment when they are doing their part. Some informants joined the army because of their origin – they were coming from military families. Whereas, some benefitted from Reserve Officer Trainig Corps (ROTC) college scholarship, some joined to pay back their student loans. There are also those who joined reserve service due to the possibility to

increase their income as a reservist. Some joined army because the opportunity the military career can offer, accept the part of the deployment as they cope with the deployment for better reasons such as better life and asset for their career.

Manageability is reflecting the belief of the person that he can cope with stressors because he has sufficient resources (Antonovsky, 1996, 15). Nevertheless, many of the nurses who took part of the research responded to their call of patriotism and they said that they wanted to do something for their country. There were both, those who volunteered for their tour of deployment while others went to war with their units who were mobilized to go there. Once they deployed they had been on equal footing in terms of developing their coping strategies during the deployment.

They all agreed that in the deployment it was important for them to have activities outside their normal duty. Among them physical activities took important part. Besides them, spiritual activities, entertainment, voluntary work and others figured as most notable outlets of the pressure. In the military deployment, the family separation is an important challenging factor to the wellbeing of the participants. On the other hand, family support can be a valuable resource. As family separation is still weighing upon the mental wellbeing, the strong kinship bond, is specific for the military colleagues emerges as a noticeable asset and figures as important resource in the coping.

Between war stressors the military members have to cope with, there are combat setting, military base conditions and human relations specific issues related to deployment. They nurse face the same issues as other military members. Yet, circumstances the military nurses in deployments is a specific situation. As nurses, they have to cope with nursing stressors that are unique for war nursing. (Stierle, 2012, xii). War patients, military trauma patients were the most often taken care of. Several nurses indicated that they were not ready for taking care for children and for enemy. Complexity of the circumstance, the combination of the military deployment and war nursing is what makes the war nursing specific.
Therefore, the war nursing coping strategies vested in coping with nursing stressors and war stressors.

In Antonovsky´s theory the importance of strong SOC is outlined as a factor facilitating moving towards health. Person with a strong SOC is motivated to move towards, he is in state of positive tension (1996,15). In the theory of Logotherapy (Frankl, 2008, 103-107) which influenced Antonovsky, this positive tension is referred to Noö-dynamics.

The author of this study assumed that the nurses describing their deployment in the book have developed strong SOC. This assumption is motivated by the findings that they are patriotic, and they have strong system of beliefs and that in connection with the fact that they have developed coping strategies how to deal with the life on the military base.

The key factors characteristic for the war nurses are patriotism, family and military background as determinant for the meaningfulness and comprehensibility. As coping strategies, the participants indicate off-duty activities as a highlight of their period of deployment. They use combination of physical activities and spiritual activities as a way to discharge stress and frustration.

In the findings, signs of the SOC can be observed, motivated by the positive tension, or Noö-dynamics. The combination of will, motivation supported by system of beliefs and coping strategies which the informants often relate can be referred to the positive tension defined by Antonovsky or as Noö-dynamics mentioned by Frankl.

Despite the findings supporting the assumption of strong SOC, it is not possible to get completely reliable insight into the informants´ personality in terms of integrity and all moral values though. There is not enough evidence about the nurses´ life experience in this study. Life experience has been defined by Antonovsky (1996, 15) as one of the psychosocial resources. The war nurses in the research do not relate about all of their own biological resources. Biological resources for example can be genes, intelligence and immune functioning. The data material does not provide me with such information.

The assumption that the nurses who are involved in the study have strong SOC is not possible to confirm with certainty.

Lezwijn et al. (2010, 44-46) and Stock (2017, 238) they stated that the salutogenesis concept works in interaction of the inner and outer stimuli. An asset of this study is that it can demonstrate the interaction of the stimuli and SOC and GRR altogether.

Some issues, such as family support can be a boost to the morale of one but to the other it can be a stressor. A person with strong SOC takes the difficult family separation as a challenge. On the other hand, person with weak SOC can explain family support as a stressor when they are missing their kids every time they remember them. The good living conditions in the deployment might be considered as material kind of GRR resources to one or as stressor to another.

Patriotism is named as a part of understandability but it is complimentary with manageability. It is possible to take patriotism for a resource. Family issues figure as both, resource and as a challenge. Family support is definitely a resource and is in a counter-balance to the family separation. Along with separation, which is a stressor another resource can emerge as a balance creating element, a resource which is kinship and bonds between colleagues.

8. Discussion of the method

The salutogenic model revealed as suitable theoretical framework for this study. During analysis, the categorization within the frame of the three salutogenic elements, understandability, meaningfulness and manageability emerged and sorted out without logically. Equally, the systematic review proved to be a method, which was able be applied in analysis.

Literature that was used was the book Nurses in War and provided data material to my study. There are 37 military nurses involved in their study, 33 of them were female. Only 24 of them responded to the authors´second research about the women´s experience of hygiene and living conditions. Out of 37, only 20 could relate about the parental separation. (Scannell-Desch, Doherty, 2012, xiii)

9. Limitations of the study

The first limitation of the study is that there is a relatively small group of nurse informants questioned. It does not provide either the complex body of evidence for investigating the complex picture of the SOC of the nurses as the individuals.

The authors of the primary study (Scannell-Desch, 2012) do not provide data about all the aspects of the nurse personalities as not all the GRR re found. Due to the limits of the data material, which revealed during the analysis, the study could only remain within the scope of investigation those elements of SOC specific for the war nurses.
The primary study focused to exploring the experience of the deployment. It was not dealing with the PTSD as such. Therefore, it did not provide evidence to investigate the occurrence of PTSD among the investigated group. It is unknown how many of them developed the disorder.

Another limitation is that the data material does not provide body of evidence about all of the participants in order to work out a reliable picture of all the elements of their SOC. Thus, it was not possible to verify the findings about how strong SOC the one particular nurse developed and if she really coped in confrontation with the circumstance of the deployment. I could not explore the full strength of the SOC of the informants and how many were really affected by the PTSD and why.
As one of the most important trigger events related to PTSD the data material does not provide any evidence about MST. Military sexual trauma is comorbid with other psychiatric issues as mentioned in theoretical background. Author believes that this is another limitation of the study.

10. Conclusion

The findings of the study revealed the functioning of the theory of Salutogenesis endorsed by mutual interaction of the GRR and the Sense of Coherence, determined by comprehensibility, meaningfulness and manageability. Therefore, I believe that salutogenic approach is suitable for the nurses to remain healthy in stressful environment in which the deployment provides.

The possibility to do this study gave me a good access to understanding of the circumstance related directly to specificity of the deployment. With awareness of the limits of the study I have come to understanding how the nurses in this study developed coping strategies which provide them with the good possibility to avoid PTSD.

The author is aware that the researched group is too small to be representative sample and that not all aspects involved in personal traits of the participants are known. Therefore the results cannot be applied into a broader scale within the frame of treatment of PTSD of war nurses, but the result is encouraging to take further insight into the problematic.

The largest body of evidence about the informants´ are about psychosocial resources what consider their military career. Among these resources it can be found those like keeping up to traditions, upbringing – their military background and, patriotism and sense of responsibility, answer to call for expertise can be considered as their system of beliefs, thus, they are part of psychosocial resources. All of the nurses related about their social network - family. These resources make the war nurses different from other nurses.

This finding led me to assumption that they manage to stay healthy and did not get affected by PTSD. Due to some limitations of the study, this assumption could not be confirmed.

With awareness limits of this study, the work on this thesis provided me with good insight into reality of the nurses deployed in war. I acquired further understanding about the coping strategies the nurses developed and what stressors could challenge their SOC related to the specific circumstance they experience. Therefore, I am considering the aim of the study achieved.

References

Antonovsky, A., (1996), *The salutogenic model as a theory to guide health Promotion*, Oxford University Press 1996, vol. 11, no. 1

Ansuya, (2012), *Transcultural Nursing: Cultural Competence in Nurses*, International Journal of Nursing Education, Vol. 4, No. 1

Conard, P., Sauls, D. J., (2013), Nursing Forum, Vol 49, No. 1

Dunn, A. S., Julian, T., Formolo, L. R., Green, B. N., Chicoine, D. R., (2011), *Preliminary analysis of posttraumatic stress disorder screening within specialty clinic setting for OIF/OEF veterans seeking care for neck or back pain*, Journal of Rehabilitation Research & Development, Vol 48, No 5

Elo, S., Kyngäs, H., (2007), *The qualitative content analysis process*, The Authors. Journal compilation, Blackwell Publishing

Feczer, D., Bjorklund, P., (2009), *Forever Changed: Posttraumatic Stress Disorder in Female Military Veterans, A Case Report*, Perspectives in Psychiatric Care Vol. 45, No. 4

Frankl, V., (2006), *Man´s Search for Meaning*, Massachusetts, U.S.: Beacon Press

Gerrish, K., Lathlean, J., (2015), The Research Process in Nursing, 7-th edition, West Sussex, UK: Wiley and sons

Griffiths, Ch. A., (2010), *A Critical Analysis of Antonovsky's Sense of Coherence Theory in Relation to Mental Health and Mental Disorder and the Effect of a Lifelong Learning Intervention on the Sense of Coherence of Mental Health Service Users*, London: Middlesex University

Hauck, Y., Robyn, G. K., Thomas, S., (2016), *Salutogenesis: a framework for perinatal mental wellbeing*, Australian Journal of Child and Family Health Nursing, vol 13, no. 2

Haskell, S. G., Gordon, K. S., Mattocks, K., Duggal, M., Erdos, J., Justice, A., Brandt, C. A., (2010), *Gender Differences in Rates of Depression, PTSD, Pain, Obesity, and Military Sexual Trauma Among Connecticut War Veterans of Iraq and Afghanistan*, JOURNAL OF WOMEN'S HEALTH, Volume 19, Number 2

Harding, S., (2017), *Self-Stigma and Veteran Culture*, Journal of Transcultural Nursing, Vol. 28(5)

Hudson, Sh. A., Beckford, L. A., Jackson, S. D., Philpota, M. P., (2008), *Validation of a screening instrument for post-traumatic stress disorder in a clinical sample of older adults*, Aging & Mental Health, Vol. 12, No. 5

Hoyt, T., Candy, C., (2011), *Providing Treatment Services for PTSD at an Army FORSCOM Installation*, MILITARY PSYCHOLOGY, vol. 23

Jones, J., Young, J. S., (2004), *Soaring to New Heights as a Flight Nurse*, Critical Care Nurse, Supplement, February 2004

Lezwijn, J., Vaandrager, L., Naaldenberg, J., Wagemakers, A., Koelen, M., van Woerkum, C., (2011), *Healthy ageing in a salutogenic way: building the HP 2.0 framework*, Health and Social Care in the Community, vol. 19, no 1.

National Center for PTSD, (2016), *Understanding PTSD and PTSD Treatment,* ptsd.va.gov

Parish, C., (2007), *Courage Under Fire*, Nursing Standard, vol. 21, no 24

Patterson, B., (2011), *ONA Region 5 Supports Nurses in Afghanistan*, Oklahoma Nurse, September, October, November 2011

Polit, D., Beck, C., (2012), *Nursing Research. Generating and Assessing Evidence for Nursing Practice,* 9-th edition, U.S.: Lipincott, Williams and Wilkins

Scannell-Desch, E., Doherty, M. E., (2012), *Nurses in War. Voices from Iraq and Afghanistan*, New York, U. S.: Springer Publishing

Stierle, J., (2012), *Nurses in War. Voices from Iraq and Afghanistan*, New York, U. S.: Springer Publishing

Stock, E., (2017), *Exploring salutogenesis as a concept of health and wellbeing in nurses who thrive professionally*, British Journal of Nursing, Vol 26, No 4.

Trossman, S., (2011), *In harm's way. Program prepares nurses to provide care in war zones,* The American Nurse, November/December 2011

http://medical-dictionary.thefreedictionary.com/Salutogenesis, retrieved 14.9.2017

http://www.viktorfrankl.org/e/logotherapy.html, retrieved 22.9.2017

https://www.goarmy.com/reserve/jobs.html, retrieved 29.9.2017

http://www.msf.org/en/about-msf, retrieved 29.9.2017

https://www.roteskreuz.at/fileadmin/user_upload/PDF/Austrian_Red_Cross/RC_History.pdf, retrieved 29.9.2017

https://www.icrc.org/en/about-the-online-training-centre, retrieved 29.9.2017

https://eprints.mdx.ac.uk/6286/1/Griffiths_A_Critical_Analysis.pdf, retrieved 2.10.2017

https://www.ptsd.va.gov/public/ptsd-overview/basics/how-common-is-ptsd.asp, retrieved 18.10.2017

http://allnurses.com/men-in-nursing/men-in-nursing-96326.html, retrieved 18.10.2017

http://classroom.synonym.com/army-pre-deployment-training-13583273.html, retrieved 18.10.2017

http://work.chron.com/army-reserve-nurse-training-16731.html, retrieved 18.10.2017

http://nursingcertificationprograms.org/army-reserve-nurse-anesthetist-program/, retrieved 18.10.2017

https://www.goarmy.com/rotc/courses-and-colleges/programs/nursing.html, retrieved 18.10.201

https://www.state.gov/j/drl/rls/irf/2010/148786.htm, retrieved 25.10.2017

http://www.salem-news.com/articles/july182008/afghan_culture_7-18-08.php, retrieved 25.10.2017

Nekola Jaroslav, Czech Army veteran, personal interview, 10.9.2017