

Mental Health Casualty Prevention

Psychological Support

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1. INTRODUCTION

Looking at the history of warfare acute psychiatric disorders of deployed personnel have occurred in significant numbers and caught the attention of military leaders. Estimates of the prevalence of psychiatric casualties vary from war to war and depend on various factors. The number is clearly high enough to represent a major reduction of combat power and a burden to the medical evacuation system. For example, studies about World War II found a 28.5% psychiatric casualty rate in American divisions in prolonged combat (1).

In 2002 the RTO panel HFM-081 started to look at combat related stress and psychological support in modern military operations. Military leaders at all levels have indeed a key role in sustaining the mental readiness of service members under their command. They also play an important part in maintaining morale on the home front for the families of service men and women.

Medical personnel should be aware of the signs and symptoms of acute stress syndromes, the necessary therapeutic steps which have to be taken and the impact on operations.

For the purpose of structuring the mental health care it is adequate to distinguish between the phases of pre-deployment, deployment and post-deployment.

2. MENTAL HEALTH DURING THE PHASES OF DEPLOYMENT

2.1 Pre-Deployment Phase

The following factors have been identified to cause individual stress disorders and may occur in the run-up phase before deployment.

Personal factors:

- continuous private and professional strain
- impaired state of health, reduced psychological fitness
- low experience and professionalism to cope with problems
- negative lessons-learned from previous missions
- negative attitude
- loss of trust in military and political leaders, poor self-confidence
- loss of trust in personal relationships

- negative or ignoring public opinion
- worry about family
- attitude of family members and social relations towards the mission
- relevant events at home during deployment (birth of child etc.)

Deployment factors:

- mission type and duration
- inadequate preparation time
- lack of information and unclear situation
- geographical and living conditions
- irregular contact with family
- doubts about unit, quality of training and leadership
- certainty of legal security
- uncertainty to deal with population or members of other forces

Literature has documented the stress of military members and their families during the time of deployment. In effect the needs of family members for health care are increased, both psychological and physical.

Longer deployments and first time deployments are associated with an increase in distress scores especially in male soldiers. Obviously there is a different stress response of men and women (2).

Table 1: Emotional cycle of deployment (3)

Phase	stage	duration
Pre-deployment	1. anticipation of separation	1-6 weeks
	2. separation	last week
Deployment	3. emotional misbalance	1-6 weeks
	4. stabilization	different
	5. expectation of return	last 6 weeks
Post- deployment	6. revival of relations	first 6 weeks
	7. integration and stabilization	6-12 weeks

A good preparation and enhanced training before being deployed is an essential precondition to cope with stressors and to avoid disorders and stress related psychiatric casualties.

Deahl et al. (4) classify interventions into three categories to reduce the incidence of psychiatric disorder following psychological trauma. Primary prevention includes selection, preparation and training under conditions as real as possible of individuals likely to be exposed to potentially traumatizing events. Secondary prevention comprises a variety of brief psychological techniques immediately or shortly after traumatizing life events, which are reflected by methods used during CISM (Critical Incident Stress Management). Tertiary interventions comprise the treatment of established PTSD and others.

Teaching to recognize the physiological stress related symptoms, e.g. shivering, sweating, increase of heart rate and blood pressure, urge to urinate and bowel movement, nausea, sleep disorders and nightmares, should be part of a comprehensive pre-deployment preparation.

Besides that, the soldiers must be aware of possible loss of cognitive and intellectual capacities and disturbed behavioral patterns, which are often caused by critical incidents, death, injuries, involvement of civilians and especially children and suicide attempts committed by friends and comrades.

In 2002 a RTO working group (HFM-081) started to study stress and psychological support in modern military operations. The main goal of the group was to provide military leaders with information and practical strategies for dealing with stress and the provision of psychological support to enhance unit effectiveness. For example the group developed a guide for military leaders. The team is continuing its activities through RTO lecture series.(5)

In preparing soldiers for such missions, it is critical that leaders and health care providers have a clear understanding of the nature of stressors they are likely to encounter (6).

Leader behavior is of significant importance in regard of influencing the extent and quality of the personnel's experience about various stressors. A review of research conducted by the Walter Reed Army Institute of Research (7) reports about the role of leadership as a predictor of stress, as a buffer against the negative effects of stress, and as variables which predict or enable to decrease the adverse effects of stress, e.g., role clarity, self-efficacy, and job engagement. A key strength of this research program is the use of multilevel modeling to examine how perceptions of leadership at the unit level are related to unit and individual soldier well-being and motivation.

Psychological first support in the combat zone is not as trained and established as the measures for physical injuries. Stressors may even affect soldiers, who did not show any loss of function before and have also been highly motivated with a maximum load of combat capacity. Therefore military leaders should have good knowledge about their troops.

General ret. Ulrich de Maiziere: "The level-headed assessment of strength and weakness of the subordinated leaders and their squadron's combat strength contribute to a proper mission-fulfilling."

2.2 Deployment Phase

Incriminating events are internationally defined as **Critical Incident**, an event that is far outside our usual field of experience. A Critical incident is determined by:

- the level of the felt helplessness
- upcoming feelings of guilt
- level of being affected
- intensity of the event, impressions, sound or odor
- identification with victims
- impact on body or soul

Critical incidents are occurring every time and everywhere, during both combat and peacekeeping missions. Soldiers are the population with the highest risk.

Besides combat related factors, they are caused by torture, sexual abuse, accidents with a large number of casualties and fatalities, hostage taking, death of family members and friends or suicide.

The way to cope with stressors depends on individual knowledge, education and intelligence, previous experiences, abilities, physical and psychological fitness and intensity and duration of the stressor.

Combat stress reactions are defined as normal reaction of a normal human being to an unexpected event. Reactions following critical incidents may occur immediately or after days and weeks, even months, and often reoccur. Furthermore, clinical work reports have shown that trauma victims (e.g. prisoners of war) may experience post-traumatic stress disorders many years after exposure.

Acute symptoms are listed in Table 2.

Table 2: Stress reactions

<i>Physical</i>	<i>Cognitive</i>
<ul style="list-style-type: none"> • dizziness • faintness • dazed feeling • sleep disorders • increased heart rate and blood pressure • breathing difficulties • shivering • intake of higher amount of liquids/alcohol • tiredness • nausea and vomiting • muscle cramps • paralysis • headache • chest pain • grinding of teeth etc 	<ul style="list-style-type: none"> • confusion • difficulty in decision making • difficulty in identifying persons • disorientation (spatial and chronological) • reduced ability to react • changed perception of sphere • bad dreams/nightmares • disturbed concentration and attention • no confidence, loss of self confidence • gap in memory • weak intellectual capacity
<i>Emotional</i>	<i>Behavior</i>
<ul style="list-style-type: none"> • fear, uncertainty • feeling of guilt • helplessness, perplexity • constriction • aggression • rage • excitability • panic • sorrow • depression etc 	<ul style="list-style-type: none"> • touchiness • antisocial and unreasonable behavior • restlessness • alcohol disorders • hunger or lack of appetite • changes in speech and wording

Not only the critical incident itself requires mental analysis. Individual and personal burden may act as subclinical and subconscious stressors even in the pre-deployment phase and are often underestimated. They become stress factors due to the intensity and duration and lead to the same physical and psychological symptoms as the critical incident itself.

General countermeasures to maintain and to strengthen the physical and cognitive resistance include adequate eating and drinking, moderate physical training, time outs and social support.

Negative incident-related effects are decreased by controlling breathing, recognizing stress-related symptoms, concentrating on the task, establishing liaison and social network and having the right attitude.

Tough actions like military drill, shouting, threatening, or attacks are contributing to severe traumas and extreme psychological reactions.

Principles of the “self and buddy help” are to be applied after calming down. Psychological first aid does not replace competent care.

Basically a mission debriefing should be performed as a primary intervention tool. This may be conducted by the military leaders and it is recommended also for those forces, which are not permanently involved in combat or difficult missions, but experience continuous stress of lower intensity.

After the incident the affected people should discuss and reflect the experienced situation. In this phase the learned coping strategies are to be applied, which may include breathing exercises, progressive muscle relaxation, meditation or prayers.

The **Critical Incident Stress Management** is a tool, which has to be applied by especially trained personnel in order to assimilate psychological trauma, either in single or in a group sessions using briefings or structured discussions. A close cooperation between military leaders, medical officers and embedded mental health professionals (e.g. psychologist) must be established to decide, which of the different measures and actions have to be applied.

In principle, it must be taken into consideration not to leave the affected persons alone, take them seriously, try to get closer contact, encourage to talk, listen, serve as an example, show possible solutions, try to get closer contact and to encourage for simple tasks.

Immediate help is absolutely necessary to avoid a **Post Traumatic Stress Disorder (PTSD)** and to get the soldier back to work.

PTSD is a medical condition occurring after experiencing a highly stressing event such as combat, violence, serious threat to one’s life or the life of a loved one, following a sudden and traumatic loss or a natural disaster, beyond the human experience. It is usually characterized by anxiety, flashbacks, hyper vigilance, recurrent nightmares and avoidance of reminders of the event.

Posttraumatic stress disorder typically follows an acute to chronic course. Little is known currently about factors associated with the delayed onset of PTSD. Gray et al. (8) presented a longitudinal analysis of PTSD symptom course and predicted this over 18 months post-deploying.

Sometimes it takes weeks or months to re-establish normal behavior. Severe burdens in the sphere of the relationship, e.g. illness, transfer to another post or re-deployment, are additional stressors and of different intensity, so they could lead to permanently additional burdens (9).

Severe traumas require professional expertise and care by referring to specialized health professionals to prevent a PTDS.

Obviously the diagnosis of psychiatric disorders is often a cause of medical evacuation.

Despite the best effort to use combat and operational stress control programs to minimize such casualties and to avoid evacuation, medical evacuations will likely be required in a significant number of cases.

Stetz et al. (11) presented a study about the main psychiatric reasons reported for MedEvac during Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) between March and September 2003 among 5671 cases. “Psychiatry” was one of the leading five medical category for MedEvac cases during both operations (OEF=7%, OIF=6%). The main diagnosis was “Top level mental disorder” (OIF 82%, OEF 71%).

2.1 Post-Deployment Phase

Co morbid anxiety disorders are proved to be part of stress-related syndromes in those who experienced combat (12).

A study to examine the prevalence of depression, mental health co-morbidity, illness variables, and quality of life in a sample of military veterans serving the first Gulf War compared deployed and non-deployed personal. Depressed deployed veterans had significantly higher lifetime rates of co-morbid cognitive dysfunction (55% vs. 35%), and anxiety disorders (59% vs. 33%) – mainly accounted for by specific phobias (12% vs. 2%) and PTSD (33% vs. 10%) - than did depressed non- deployed veterans. Lifetime substance use disorders were significantly more frequent in deployed veterans than non-deployed veterans (70% vs. 52%); particularly alcohol disorders (68% vs. 52%).

Another report (13) about positive and negative consequences of a military peacekeeping deployment to Bosnia found married soldiers more likely than single soldiers to report negative consequences (78% vs. 55%), including problems with military chain of command, being away from home, and deterioration of personal relationships.

A longitudinal study among Swedish peacekeeping soldiers (14) showed, that individuals having experienced traumatic events in Bosnia, as well as stressful life events after deployment, reported the poorest mental health; post deployment stressors made the strongest contribution to registering a poor mental health score after one year.

Another report (16) obtained data from 474 Navy members in pre-deployment, 445 in mid-deployment, and 276 in post-deployment in support of the war in Iraq. Analysis indicated, that many variables predicted extreme anxiety during deployment: age under 25, being childless, non-attendance to church, being enlisted, zero or one deployment history, no high school education, and being currently in counselling. All phases reported suicidal indication at alarming rates (2.4% in pre-deployment, 4.9% in mid-deployment, and 3% in post-deployment).

A study by Hoge et al. (18) compared the impact of deployments to Iraq and Afghanistan. The prevalence of reporting a mental health problem was 19% among service members who returned from Iraq compared to 11.3% after returning from Afghanistan and 8.5% after returning from other locations. Mental health problems were significantly associated with combat experiences, mental health care referral and utilization. 35% of Iraq war veterans accessed mental health services in the year after returning home, 12% per year were diagnosed with a mental health problem. More than 50% of those referred were documented to receive follow-up.

3. STRESS MANAGEMENT

3.1 Stress Management in the German Armed Forces (Bundeswehr)

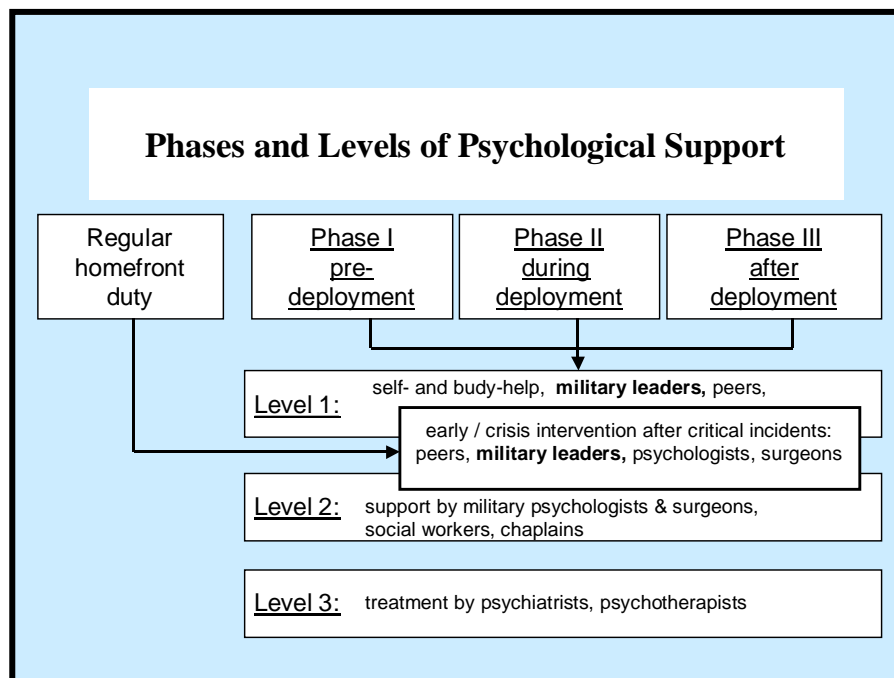
During the last two decades the scope of military engagement changed from the European arena to worldwide engagement of German troops. Starting with Somalia in 1992, German troops have taken part in many campaigns (former Yugoslavia, Afghanistan, to name a few), and continue to do so in form of “Stabilising Forces “ and “Provincial Reconstruction Teams”.

The German Armed Forces have developed a concept to cope with deployment related stress. It is based on two documents:

1. Outline Plan for managing psychological burdens placed on soldiers dated in 2004 (19). It settles and coordinates the procedures to strengthen and restore the psychological stability of the troops in all phases of a deployment.
2. The medical-psychological stress-concept for the German Armed Forces, dated in 2004 (20). It coordinates the medical and the psychological activities of primary and secondary intervention and of the pre-clinical phase. Lessons-learned from previous missions showed also the importance of an integration of military pastoral services and social services.

Both concepts can be summarized in a “3-column phase”-concept, which describes the required help during all phases and three levels of prevention and help during deployment, depending on mission character and necessity. Field physicians and psychologists will always initiate professional action, if the symptoms remain or reoccur.

Table 4: Phases and levels of Psychological Support



Crisis Intervention Teams (KIT's) are situated between level 1 and level 2. They are called into action after a critical incident has happened. Headed by a military psychologist or a physician with additional psychological or psychiatric training, a KIT will work with all people who are affected by the incident. If necessary, team members will start right away with demobilizing and de-escalating of affected people and emergency staff.

If numbers require, affected people will be categorized by screening these soldiers with a survey questionnaire (21) developed to distinguish persons who have a higher risk of developing a PTSD from the ones who have a lower risk (Triage). The work of the Crisis Intervention Team mainly follows the well-published concept of “Critical Incident Stress Management (CISM)” of Mitchell and Everly (22) and integrates the model of Fischer and his working group (identification and treatment of target groups depending to their risk of developing PTSD).

The primary focus is prevention. Measures in the pre-deployment phase include especially training and sensitization. Whenever a unit is preparing for its deployment, it receives special instruction in all aspects

of its upcoming mission. A psychologist will be assigned to this unit in order to conduct a briefing for all soldiers about expected reactions to the new environment and how to cope with these reactions. This instruction is tailored towards the actual mission. It includes the advisable behaviour in hostage situations as well as how to keep up morale and spirits in the case that someone is wounded or killed. Parallel to this more general training, military leaders receive an awareness training that sensitizes them for certain stress related reactions and at the same time raises awareness regarding support of their troops (improving leadership).

Wherever possible, recreation centres may be a useful tool during deployment. For a few days these institutions provide a period of relaxation under supervision of a psychological team. "Peers" assist the professionals in the application of CISM-procedures.

While still in the country of their deployment or while in transit to their units at home, all military personnel is taking first steps towards re-integration into their home-units as well as into their social and family environment. Returning soldiers will answer the PTSS-10 (Post Traumatic Stress Survey, German version) (23). This instrument provides reliable information about critical events, which the individual may have encountered, and his reactions. The objective in the post-deployment phase is to identify those troops, who have experienced special burdens and need a qualified surveillance. It is well known, that affected persons must be addressed directly and as sensitive as possible, because they tend to dissimulate and to suppress their problems rather than to reveal them.

Shortly after deployment a seminar for two days is conducted, which is mandatory for all soldiers. Qualified trained moderators and military psychologists have leading function. The aim is to defuse emotional tensions, to give relief and to screen for affected soldiers with symptoms. Family members have the opportunity to attend if desired. The reintegration into the families is of relevance to avoid complications like aggression against spouses, which might arise (24).

It is mandatory for all soldiers to see their physician in the home unit after returning from a mission. Besides physical examination the consultation includes a questioning about experienced stressors to detect symptoms of a PTSD. If indicated and in all cases of continuing physical and psychological symptoms following a deployment, professional care has to be initiated by referring the affected persons to specialized health resorts for 3 weeks within 6 months after deployment. Patients suffering from prolonged symptoms are referred to specialized hospitals.

Furthermore, the Bundeswehr has established family care facilities, which provide support in all social matters and problems at home occurring during deployment.

The medical-psychological stress management works on the basis of a task related network, which provides a close liaison between medical, social, psychological and pastoral services at the home base. This improves the long-term quality of prevention, intervention and therapy.

The common goal of all measures is to enable the soldiers and their families to cope better with all kinds of deployment related stress and prevent them from developing any form of PTSD or burnout.

3.2 Stress management for the Flying Personnel of the German Air Force (GAF)

The German Ministry of Defence has issued the „Concept of Psychophysical Stress Management for Flying Personnel“ in 1995 (25). It has paved the way for the described concepts throughout the German Armed Forces.

This concept has provided the necessary guidance to prepare flying crews for expected encounters with stressful situations, as well as to react to critical events like mishaps and aircraft accidents with resulting

casualties. It was also helpful in keeping up performance and flight safety standards in times of change and transformation.

The geo-political changes and the increasing number of sorties of flying units, together with major changes in mission qualities, seemed to increase the stress level for flying personnel, the technical support staff, and their families.

One important feature of the concept is that an aviation psychologist is assigned to each flying unit (wing level) of the armed forces (Air Force, Navy and Army). The psychologists should visit their units four times a year for about one week, and do one field exercise a year with this unit.

There are four main areas in which this concept is applied:

- Preparation for deployment: All crewmembers take part in physiological training every four years to regularly renew their licenses. This routine training includes additional classes in stress management. Whenever a unit is preparing for deployment, members of the unit receive special instruction about all aspects of the upcoming mission. A psychologist will be assigned.
- Assistance during deployment: During campaigns which are recognized or expected to be more dangerous than the average mission, an aviation psychologist will accompany this unit.
- After Deployment Care: The procedures applied are identical with the ones for ground troops, including family support.
- Military leaders of flying units receive special training to make them familiar with stress and trauma related reactions. Special attention is given to the fact, that some stress reactions have impact on human limitations and the ability to fly an aircraft safely and effectively.

In addition to the above mentioned deployment related actions, all flight surgeons receive a special training in aviation psychology and are also trained to work as “Peers” within a Crisis Intervention Team (KIT). This knowledge enables them to better communicate with soldiers who are traumatized or have difficulties in coping with challenges that arise from their duties. All flight surgeons keep close contact with the assigned psychologists.

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