MENTAL HEALTH POSTERS

PPO16
Mental Stress Evaluation Based On Heart Rate Variability among Air Force Novices During Parachuting Training

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Objective: To investigate the changing characteristics of mental stress level of the novice parachutists preparing for skydiving by using heart rate variability. Methods: Twenty novice parachutists jumped for seven times altogether during military parachuting training. Electrocardiogram was collected with pilot physiological parameters recorder throughout the process of parachuting from the camp to after landing. Their short-term heart rate variability measured at the camp, at the airport, and on the plane was analyzed by data analysis system matched against the recorder. Results: As compared with the first jump, the indices of HF and HFNU of the novice parachutists at the camp were significantly higher than that of the fourth and the seventh jumps (P<0.01), but the indices of LFNU and LF/HF were lower (P<0.01). No statistically significant differences were detected for the novices at the airport between the three jumps (P>0.05). The index of HFNU on the plane for the seventh jump increased significantly compared with that of the first jump (P<0.05). By contrast, the indices of LFNU and LF/HF became lower in the seventh jump than in the first jump and the fourth jump (P<0.05). Conclusion: As the jump times increase, the mental stress level of the novice parachutists at the camp and on the plane decreases significantly. But the stress level shows no obvious variation at the airport.

Key words: Airborne force; Novice; Mental stress; Heart rate variability

PPO17
Mental Stress of Responder in Tohoku Earthquake and Tsunami
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On March 11th 2011, a great earthquake struck Japan which was the most powerful known earthquake for us. The earthquake triggered extremely destructive tsunami waves which made catastrophic damage off the Pacific coast of Tohoku, the northern part of Japan. Japan Self Defense Force rapidly responded, and has been supporting the affected regions for more than for 4 months. Corpse search mission was especially challenging and traumatic among responders. Many reports have shown that the corpse search duties may cause severe psychological stress or (traumatic stress) to responders, and lead to subsequent post-traumatic stress disorder (PTSD). Studies have shown that mental stress trigger systemic inflammation in human bodies and investigation of blood cytokine reaction pattern may diagnose depression or schizophrenia. To investigate how severe mental stress load on the responders for Tohoku earthquake and tsunami, and if blood cytokine analysis can detect the mental stress, we analyzed blood from 97 soldiers who had worked on disaster support missions. For control, we also analyzed blood from 500 soldiers who had worked on several types of missions, including real military mission, hard special training, and routine duties. We also investigated their mental status by
psychological tests and interviews. We measured 27 types of cytokines in blood. All data were subsequently analyzed by multivariate analysis such as principal component analysis and cluster analysis. After grouping by cluster analysis, we identified each group by background data of control. From this analysis, cytokine patterns associated with severe mental stress was found in the responder group and not the military mission group. The results of follow-up interviews were compatible with those of blood analysis. In conclusion, blood cytokine analysis may be useful for detecting mental stress. The soldier received severe mental stress during supporting mission for Tohoku earthquake and tsunami.

PPO18

Work–Related Stress and Work Ability among Iranian Military Hospital Nurses
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Objective: The quality of health care depends on many factors including the health and work ability of health-care workers. Nurses represent the largest category of health-care workers, providing up to 80% of direct patient care. The aim of this study was to evaluate the association between the stress at work and work ability among Iranian military nurses. Methods: A cross-sectional study design was conducted in Iranian Military hospital. Data were collected using two questionnaire, Occupational Stress Assessment Questionnaire (OSAQ) for health-care workers, standardized and adjusted to conditions in the hospital-care system and Work Ability Index Questionnaire (WAI) for occupational health. One hundred five nurses were completed the questionnaires. Result: The mean age of the entire study subject was 33.72± 6.12 years, negative correlation observed between age and stress at work (p< 0.008). The perceived stressors at work were unexpected Situations, infection, paper work, time limits and low suits. The majority of participant rated their work ability as good. There was no significant association between the OSAQ and WAI (r = - 0.113, P = 0.262). Conclusion: Iranian nurses work ability in Military hospital in relation to the demands of their job was good and was not affected by work-related stress. However the organization level should include the provision of adequate salaries, less paper work, positive collaboration with the public and education of medical staff on the hazard.

Key Words: Work ability – stress - military nurses

PPO19

Psychosomatic Perioperative Surgical Experiences of Patients Undergoing Surgical Anaesthesia.

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Introduction: This study is to investigate the psychological and bodily experiences of patients who undertake anaesthesia during surgery. Many patients often complain of bodily manifestations dreams and sometimes nightmares and out of body experiences before, during and after the period they undergo surgery. Objective: The objective of this study is to investigate and determine the premorbid factors that may influence psychosomatic disturbances in patients undergoing surgical anaesthesia.

Method: This was a semi structured study in which 180 questionnaires were given to patients who had undergone surgery and general anaesthesia. Majority of the patients were recruited from the outpatient postoperative follow-up clinics in five hospitals, the General hospitals in Warri, University
of Benin Teaching Hospital, Lagos University Teaching Hospital, General hospital Benin City and Military Hospital Lagos. The questionnaires were accompanied with local postage stamps and patients were directed to fill the questionnaires, fold, staple and returned by postage. Majority of patients filled forms and handed over to contact persons who assisted in the study in each of the hospitals. The forms were collated and analysed after about six weeks when it was clear that no more forms were forthcoming. The questionnaires were used to elicit information bordering on peri-operative untoward non surgical experiences. Results: One hundred and forty six persons (146, 81%) responded made up of 101 males (69%) and 45 females (31%). The mean age of respondents was 36.4 (SD 20). Of the respondents, 70 (47.9%) were in hospital for their first time 62 (42.5%) said they had ontoward dreams before and after their surgical operation. 34 (23.3%) had untowards dreams after their surgeries. 19 (13.0%) had combined pre and post anaesthetic surgical dreams. 102 (69.9%) patients had some sort of disturbance, fear before the surgery. 11 (7.5%) thought something could go wrong after a successful surgery. 28 (19.2%) of patients who had serious premonition before surgery tended to suffer from some critical incidents during surgical anaesthesia. 97 (66.4%) thought they were adequately prepared for surgery in retrospect. 83 (56.9%) felt that they were rather distant from their surgeons.

Only 17% had close contact with their anaesthetists before surgery. 45 (31.0%) military personnel all had rapport with their surgeons. 108 (74.0%) attributed the success of surgery to divine intervention. Only 34 (23.3%) gave credit to the dexterity of their surgeons. 5 (3.4%) patients attributed their successful surgery to destiny.

PPO21
Combat and Operational Stress
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Analysis of Mental Health Status of the Yushu Earthquake Rescuers and the Influence of High Altitudes

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Objective: To study the mental health status of the rescuers taking part in earthquake disaster relief assignment in Yushu and analyze the influence by high altitudes. Methods: A total of 150 rescuers were investigated by Self-Rating Depression Scale (SDS) and Self-Rating Anxiety Scale (SAS) 7 days after Yushu earthquake. The acute stress, anxiety and depression of the rescuers were analyzed to identify the influence by high altitudes. Results: The incidence of depression in the rescuers was 34.0%. The depression and anxiety mean scores were significantly higher than those recorded in Wenchun earthquake rescuers (P<0.01). Multivariate logistic regression analysis showed that high altitudes was the significant influence factor affecting anxiety and depression. The sialic enzymes (AMY, TP, CREA, LDH, CYSC, K) of moderately to severe depression groups were significantly lower than those in the healthy group (P<0.01). The level of GLU in the anxiety groups was significantly lower than that of the healthy group (P<0.01). Conclusion: The overall psychological stress profile of Yushu earthquake rescuers was characterized mainly by mild anxiety and depression. High altitudes, hypoxia, the cold and mountainous environment all produce negative influences on the individual's psychological status. The relations between anxiety, depression, acute stress and saliva biochemistry need further research.
“Combat/ Operational Stress Reaction” (COSR) is an issue that will likely affect every Marine unit. Left unaddressed, the effects of combat and operational stress can lead to long-term psychological injuries. Although not as visible as physical trauma, psychological injuries have been a significant portion of total casualties in any conflict. In the American military, combat stress reactions were noted as early as the Civil War. After the First World War, large numbers of combatants suffering from “shell shock” sought medical attention. Combat stress reactions were observed in more than 20% of US troops in World War II, and in the Korean War, 10% of medical evacuations were attributable to combat stress. Some estimate that as many as 30% of Vietnam veterans suffer from the long-term effects of untreated COSR. Approximately 15% of long term casualties after the Gulf War were psychological in nature. Effectively addressing the psychological effects of such stress both before and after it occurs can greatly improve a unit’s readiness status.

PPO22

Commander’s Role in Reducing Stress and Providing Military Mental Hygiene in Aerial Missions

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Mental health is one of the effective factors responsible for the health of military personnel. Injuries originating from contention, family remoteness, unsuitable climate, resort, sorrow resulting from losing friends and associates and standbys to mention a few have important roles in health and the determination of mental hygiene. Many cases such as self-injury, suicide, beating others, sleep disorders; character and emotional disorder (stress and depression) have been reported in air bases. Commanders as main decision makers in the military might have significant role in controlling stress and grading mental hygiene of their personnel. Aerial military centres' sickbay has significant role in receiving patients, providing referrals to medical centres and gaining statistics of personnel mental hygiene condition; however, commanders have the most important role in preserving the health of personnel. To achieve these, firstly, military commanders need to be familiar with proper principles of mental hygiene and the different stressors such as controllable, mutable and inconvertible stress. This would be facilitated by physicians, psychologists, psychiatrics and nurses. Secondly, commander’s need to provide stress- control situations and prevent the outbreak of mental diseases by increasing soldiers' tolerance against stress and supporting them emotionally. The purpose of this article is to provide commanders with strategies not only to gain good mental condition by using them, but also to take an important step in grading mental hygiene, to increase personnel's efficiency in aerial missions.

**Key words:** mental hygiene, stress, commanders, aerial missions.

PPO23

Stress Management in Military Operations

**Umar Faruk Adamu**
Stress Management in Military Operations is a well-researched, lucidly laid-out paper that addressed the topic from an insider’s perspectives. Even though the basic stress response in humans has not changed over the years, the modern man, unlike his ancestors, has to contend more with persistent adrenaline secretion which runs into volumes as a result of our frequent encounter with modern stressors and warfare technology. Although all professions possess their different doses of stress, the military career present itself as a peculiar stressful occupation. Consequently, the paper dwelled on the relationship between stress and military life. It proffered measures on the ways of managing this ailment described as both an enemy and a friend. Normal stress is beneficial as it enables us to adapt to situations and tackle challenges. However, a persistent, overwhelming stress that is beyond our adaptive capability is considered as an invisible disease that requires not only medical but also social, spiritual and psychological attention. Although there is paucity of data on the stress-related morbidity and mortality in the Nigerian military, references were made to individual experience of such cases in different areas of military operations. One needs only to visit barracks to see cases of anxiety neurosis, depression, frank psychosis and physical diseases such as hypertension and osteoarthritis. The recent survey on suicide cases in the Nigerian Navy, although inconclusive, identified many manifestations of stress; lack of promotion, fear of retirement and military trials among both officers and men. Finally, the paper demonstrated the need to educate personnel on the dangers of stress and ways of managing it particularly in the tropics. An effective stress management package would be instrumental in promoting personnel health, preventing disease and enhancing the operational capability of the military.

PPO24
Non Specific Psychopathology and Life Satisfaction among Nigerian Civil War Veterans

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**Background:** Post combat discharge from the Army on medical ground could be associated with increased post retirement morbidity. Both physical and psychological difficulties have been recognized. Psychopathology was also related to life satisfaction among the veterans. **Objective:** To investigate the presence of psychopathology among a sample of veterans of the Nigerian civil war, 29 years after they had been demobilized. **Results:** A prevalence rate of psychopathology of 52.7% was obtained. The scores on the discontentment and unsatisfactory life achievement components of life satisfaction correlated positively with psychopathology scores. Those with psychopathology differ from those without with respect to the contentment sub-scale score (F=89.57, p<0.001), the achievement sub-scale score (F=11.71, p<0.001), and the total life satisfaction score (F=72.49, p<0.001). Discontentment with current life situation and regrets about past decisions were the best predictors of psychopathology in multiple linear regression analysis. **Conclusions:** The prevalence rate of non specific psychopathology obtained was higher in military men discharged from the Army on the ground of combat related injuries than figures usually quoted for the prevalence of psychopathology in the general Nigerian adult population. The veterans studied unfortunately tended to look back on the lives with regret and were usually dissatisfied with their current circumstances. It
is possible that physical illnesses and unfavourable social factors were contributory to the high prevalence of psychopathology. We therefore suggest better medical care for retirees, pre retirement occupational apprenticeship schemes, enhanced, inflation- linked pensions and active interests’ pursuits as measures to improve life satisfaction among Nigerian veterans. The authors called for funding on studies on post retirement psychological adjustments.

PPO25
Spousal Support In The South African National Defence Force During External Military Deployment: A Model For Social Support Services

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Separation of family members due to deployment is stressful and challenging. The importance of spousal resilience has been reflected by the nature of problems that have been experienced by the spouses while the members were on external military deployment. This study was aimed at designing a model for social support services to the spouses of SANDF members during deployment. The research approach that was used in this study is a combination of qualitative and quantitative approaches. The proposed model is the SANDF Unit Family Support Groups (SANDF UFSGs) model that will address issues that have been identified in this study.

PPO26
Depression and Anxiety Epidemiology in Iran's Police Department Conscript Soldiers.

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Objectives: World Health Organization's recent report shows that mental disorders, affect about 10% of adult population and incidence of these disorders are growing. Among this population, the youngsters who are called to the duty are more vulnerable of these disorders and that's because of particular situation they have (like being away from family, salaries and amount of that, physical activity…). Accordingly, this study was conducted in order to measure the effects of factors such as age, education and marital status on the incidence of mental disorders among police conscript forces.

Methods: A sample of 1,200 men aged 18 to 30 years was randomly selected and that have been categorized in different groups. A group of 400 subjects which were non-employed in the army forces also have been chosen as the control group. Researchers collected the data using GHQ-28 to identify problematic and non-problematic soldiers. Researchers have used cut-off point of 23 for the main test and the cut-off point of 6 for each sub scale. Finally, collected data were analyzed using the SPSS software. Covariance analysis and T-test methods were employed to analyze the data (the mean level was 0.5). Results: The sample was consisted of %20 soldiers with under graduated education, 20% had diploma, 20% technicians, 20% bachelor and 20% with master of science education or higher. Only 13% of sample was married. 22% of sample was aged between 18 to 20, 39% between 20 to 25 and 26% were between 25 to 30 years old. Correlation analysis and analysis of covariance showed that there is no relation between somatic symptoms and age or education; but there is a relation between marital status and somatic symptoms and more have been seen in married people. Anxiety subscale had positive correlations with age and education, and more have been seen in married people. Social withdrawal subscale had positive correlation with age and education and more have been seen in
married persons. Accordingly, total score have had positive relation with age, graduation and marriage have had some effects on the symptoms of these 4 subscales. **Conclusion:** Results showed that the prevalence of mental disorders in a community of police duty personnel were not more than original sample. Based on the analysis results, 14 percent of conscript soldiers were prone to mental disorders. However, married people have higher risk of psychiatric nervous symptoms. It was found that age and education are the risk factors for anxiety and depression in conscript soldiers.

**PPO27**  
**Forecast of Combat Stress Reaction Losses in Future War**  
**Wang XinYu**  
(CHINA)

**Aim:** To theoretically explore the feasibility of forecasting combat stress reaction (CSR) and CSR loss in future warfare. **Methods:** The literature concerning the target field of present study were reviewed and the related data were collected to grasp the latest information in the studies field. By combination of literature analysis and theoretical deduction, both qualitative and quantitative methods were employed in forecasting the occurrence of CSR and CSR loss. **Results:** A positive correlation existed between the occurrence of CSR and battle intensity. The characteristics of the future war were sudden in breaking out, with short duration, express tempo of war situation, and the high stress of operations. In the future battlefield, soldiers would face to more difficult tasks and tough surroundings, which may lead to a large number of serious CSR casualties. The forecast pattern of CSR loss in high-technology war was established based on the analysis of the main factors influencing CSR casualties. **Conclusion:** The results of present study may be useful for studying CSR in armed forces. They are of some theoretic values, and provide theoretical evidences and technologic supports for the psychological health service in both wartime and peacetime.  
**Key words:** combat stress reaction; factors influence analysis; forecasting pattern of losses

**PPO28**  
**Epidemiological Aspects of Psychological Disorders in Military Pilots in China**  
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(CHINA)

**Objective:** To carry out a descriptive epidemiological study of psychological disorders in Chinese military pilots. **Methods:** The medical records of aircrew hospitalized from 1988 - 2008 were reviewed. Data were collected from 163 psychical files including age, class of aircrew duties, type of aircraft, flight time, aircraft accident history, fear-evoking situations, and psychological morbidity. We compared the group of pilots in jet aircraft with aircrews in turboprop aircraft. **Summary:** Of the 69 pilots of jet aircraft and 83 aircrews of turboprop aircraft, observed psychological disorders consisted of depression and anxiety. In the 114 cases with psychological disorders, depression was the most frequent condition associated with behavioral health. Three types of depression were identified, namely depressive disorder, adjustment disorders with anxiety and depressed emotion, and dysthymic
disorder. Jet aircraft pilots had a significantly lower incidence of depression (40.6%) than turboprop aircraft aircrews (61.4%) ($\chi^2=5.76$, $P<0.05$). The second group of psychological disorders was anxiety: anxiety disorder, adjustment disorder with anxiety, posttraumatic stress disorder, and panic disorder. In cases of anxiety disorders, jet aircraft pilots had a significantly higher incidence (34.8%) than turboprop aircraft aircrews (13.6%) ($\chi^2=8.68$, $P<0.01$). **Conclusions:** Psychological disorder is a complex phenomenon and encompasses a wide spectrum of clinical origins, where there can be interactions between the elements of mental health, neurotic roots, and life events affecting eventually the pilots’ willingness to continue flying. We recommend a careful psychological evaluation and close follow-up to adequately identify pilots with psychological disorder reactions.

**Key words:** Military personnel; Aerial environment; Mental health; Epidemiology; Psychological disorder; Depression; Anxiety; Post-traumatic stress disorder; Behavioral health

**PPO29**

**Group Cognition Psychological Counselling for Psychological Intervention among Soldiers Participating in Earthquake Rescue**

**Yuan Shuiping**

**Objective:** To assess the value of group cognition psychological counseling on the mental health of the soldiers who participated in earthquake rescue missions. **Methods:** Group psychological games, group psychological education counseling, group cognitive psychological trainings and individual psychological intervention were organized among the soldiers involved in earthquake rescue, and data were obtained using SCL-90 and CSQ before and after the intervention. **Results** Group cognition psychological counseling produced favorable effect in the soldiers who had the rescue experience, who showed improved coping ability after the intervention. **Conclusion:** Group cognition psychological counseling can be an effective psychological intervention for soldiers participating in special duties.

**Key words:** group counseling; cognitive therapy; earthquake relief; soldier; mental health; coping style