41st ICMM World Congress on Military Medicine
May 17-22, 2015 | Bali Nusa Dua Convention Center - Bali, Indonesia

ABSTRACTS

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Elimination of intestinal parasites among Polish soldiers serving in Eastern Afghanistan, 2010-2014

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Introduction
More than 25,000 Polish soldiers were serving in Afghanistan as members of multinational coalition forces (ISAF) in the period from 2007 to 2014. Polish troops performed their tasks under harsh environmental conditions, poor sanitation and in close contact with the local population characterized by a large number of infectious diseases carriers. The aim of the study was to present the results of a prevention program launched in the Polish Armed Forces aiming at eradication of intestinal parasites among Polish soldiers deployed to Afghanistan.

Methodology
The medical records of 16,164 examined soldiers of the Polish Military Contingent serving in eastern Afghanistan in the years 2010-2014 were subjected to statistical analysis. 2-4 weeks before the end of their service in the mission area each soldier delivered 3 stool samples, collected at intervals of 2 to 3 days, fixed in 10% formalin. The samples were then transported to Poland where they were examined in light microscopy using 3 different diagnostic methods (direct smear, Fülleborn’s flotation, decantation in distilled water).

Results
Pathogenic intestinal parasite infections were detected in 665 of the tested soldiers (prevalence of infection 4.1%). The most common pathogens in the examined group (n=16,164) were Ascaris lubricoides (46.2% of infections), Gardia intestinalis (34.6%), and Hymenolepis nana (8.0%). All of the infected soldiers received recommended antiparasitic treatment (albendazole, metronidazole or praziquantel) before returning to Poland.

Conclusion
Prevention program against intestinal parasitic diseases which has been implemented in Afghanistan helped eradicate infections among Polish soldiers and limited the spread of intestinal parasites from Afghanistan to Poland.

Keywords
Intestinal parasites, Polish soldiers, eastern Afghanistan

Ebola Virus Disease - Challenges and Approaches in Different Settings

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Introduction
For about one year clinicians, scientists and epidemiologists from all over the world have followed breathlessly the unprecedented outbreak of Ebola-Virus-Disease (EVD) in West Africa marking one of the worst public health crises in history. Finally, in August 2014 the World Health Organisation (WHO) declared it to be a “public health emergency of international concern” after initially rather ignoring its death toll.

Methodology
About the same time the first American patients were evacuated and repatriated, other international health care professionals who had contracted the disease in West Africa followed to be treated in Europe. Germany provided treatment of three EVD patients in different specialised isolation facilities each with intensive care equipment.

Results
One of these patients was airlifted to Hamburg to be treated in cooperation with a team of the Department of Tropical Medicine, German Armed Forces Hospital Hamburg. Despite numerous complications such as sepsis, respiratory failure and encephalopathy he recovered thanks to intensive supportive treatment and was discharged on day 40. In the ongoing months, cases of and deaths from EVD increased dramatically pushing the international community to act and to contribute to the containment of EVD. The German Government deployed both civil and military staff in a unique joint mission to run an Ebola Treatment Unit (ETU) in Monrovia/Liberia under limited conditions

Conclusion
The experiences of the personnel taking care of the patients in Hamburg and Monrovia show the challenges and different approaches when working in two settings as contrary as these. The identified and learned lessons are presented.
Keywords
Ebola, Barrier Nursing, Outbreak Control

Methicillin-susceptible Staphylococcus aureus skin infections among military conscripts in Bangkok, Thailand 2014

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Introduction
Skin and soft tissue infections are common in military conscripts where the training environment is susceptible to closed-contact activity. On June 4th, 2014, an outbreak of Staphylococcus aureus skin infections was reported. There was a fatal event in this outbreak resulted in one dead. The investigation was performed to verify the outbreak and recommend the appropriate prevention and control strategies.

Methodology
Cases were examined and clinically diagnosed and attack rate was reported. Data were collected from questionnaires and medical records including laboratory results

Results
All participants were male, with a mean age of 21.2±1.0. From a total of 213 at-risk personnel, 41 cases met the case definition; 22 cases were laboratory confirmed Methicillin-susceptible Staphylococcus aureus (MSSA) and 19 cases were clinically diagnosed. The attack rate was 19.2 %. Case fatality was 2.5 %. Factors associated with infection were described by multivariable logistic regression which included multiple erythematous papule (OR = 3.12, 95%CI:1.42-6.88) and subunit 1 (OR=10.09, 95%CI:3.61-28.19) and 2 (OR=7.63, 95%CI:2.65-22.00). Eleven randomly selected isolates were evaluated by Pulse Field Gel Electrophoresis (PFGE) to confirm clone identification. Four genetic patterns were found. This outbreak revealed that a simple skin infection can be a cause of death.

Conclusion
Our study reinforces the main role of military personnel in early detection, promptly treatment, prevention and containing the outbreak of skin infection, as well as other health issues in the military precincts.

Keywords
Methicillin – susceptible Staphylococcus aureus, military, skin infection

A Follow-up Study of Opisthorchis viverrini Infection in a Rural Community of Central Thailand

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Introduction
Opisthorchis viverrini (OV) is the public health problem in Thai rural area. The major risk factor is consumption of uncooked Cyprinoidfish. Recent study in 2012 showed that the OV prevalence is 9.3 % (6.6-11.9, 95% CI).

Methodology
A retrospective cohort study was conducted to evaluate incidence and risk factors. Stool examination methods including wet preparation, Kato thick and formalin-ethyl acetate concentration techniques were performed to diagnose OV egg. A standardized questionnaire was used to assess risk behaviors. Qualitative information was collected from 4 sessions of focus group discussion;local village health volunteers, control group, curative group and newly infected group. In-depth interview method was used in specific population to address interesting issues regarding OV infection included re-infection group and cured group.

Results
The incidence rate was 6.8 person-years (4.7-9.5, 95% CI). Consumption of chopped raw fish salad (Koi pla) was significantly associated risk factors of OV infection as same as previous study in this area. Qualitative study indicated that
OV infection was a result of continuation of raw fish consumption due to its taste, social and cultural influence.

**Conclusion**

Although conventional intervention and National Control Program has been applied to the study population, OV infection still emerged. Qualitative study also provided details of infection regarding bio-psycho-social aspect. The results could be potentially used to improve the health promotion program, providing more precise and effective intervention. Established risk such as consumption of Koi pla should be specifically incorporated in the prevention and control program.

**Keywords**

Opisthorchis viverrini, Incidence, Re-infection, Risk Factor, Qualitative study, Central Thailand

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**Field evaluation of permethrin-treated military uniforms against main malaria vector, *Anopheles stephensi* (Diptera: Culicidae) in Iran**


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**Background**

Malaria is one of the most important insect born diseases in tropical and sub tropical regions in the world and is one of the major public health problems in Iran. *Anopheles stephensi* (Liston, 1901) is one of the most important vector of malaria in south of Iran. Over the past decades, personal protection methods against vectors have increased as a result of efficacy and safety to human. In recent years, great progresses have been occurred in protecting people, especially military personnel, against arthropod bites and vector-borne disease, using repellents, and treating textile with pyrethroids insecticides. In this study which has been performed for the first time in Iran, the protection of permethrin-treated military uniforms against mosquitoes in a rural field has been conducted.

**Methods**

In this study, six types of current military uniforms of Iran were treated by permethrin (0.125 mg permethrin [AI]/cm²) and examined against the biting of natural population mosquitoes of rural areas of kazeroon, Fars Province, south of Iran, namely *Anopheles* and *Culex*. Eight volunteers were selected for this study. Six of them put on the treated uniforms and the other two ones wore the untreated uniforms. All the subjects participated in the night biting test for eight active nights. The protection percent of treated uniforms for different species of mosquitoes, in comparison with untreated ones, was calculated through determining the species of captured mosquitoes, separately from case and control subjects. The amount of residua permethrin on uniforms, before and after field test, was measured by Thin Layer Chromatography (HPTLC) method with using florescence light (λ=254 nm) and CATS4 software.

**Results**

There was no significant difference in the protection of different treated uniforms against mosquitoes biting. The average number of mosquitoes biting among who wore untreated uniforms (controls) was 3.21(SD=±1.2) mosquito biting/min/person (192.8/h). This amount was 0.26(±0.1) (15.6/h) for who wore treated uniforms (cases). The relative protection level of treated uniforms, in comparison with untreated ones, was about 91.9%. The results showed that the relative protection percent of treated uniforms against *An. stephensi* was 78.7. In two weeks of study, there hasn’t been any significant decrease in the amount of uniforms’ permethrin.

**Conclusion**

There is no doubt that using permethrin-treated clothing is a useful technique which makes a considerable protection against *An. stephensi* and others mosquitoes species biting and if it be accompanied with application of repellents on skin, makes the maximum protection.

**Keywords**

Permethrin, mosquitoes, fabrics, impregnation, military uniform, personal protection, *Anopheles stephensi*
A Parasitological and Serological Study in Malaria Suspected Patients in Hormozgan Province, Southeastern Iran

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Objective
Presence of malaria immune factors induced by erythrocytic stages is widely used as an epidemiological approach to diagnose the infection mainly to distinguish the current, recent and past infections. This study was performed to find out the status of malaria, using microscopical and serological (IFA) methods in Bandar-Abbas and Minab, two malarious districts in Hormozgan Province of Iran.

Methods
385 patients with suspected malaria symptoms were enrolled. Conventional microscopic examination and serological IFA test were employed for diagnosis of malaria.

The rates of agreement between microscopical and serological diagnosis were analyzed by Kappa test.

Results
18.1% and 1.6% of the samples were microscopically diagnosed as *P. vivax* and *P.falciparum*, respectively. On the other hand, the serum samples were sero-positive with *P. vivax* and *P. falciparum* antigens in 56.2% and 31.1% of the samples, respectively.

Conclusions
Serological IFA method could mainly determine the past history of malaria infection, but it was not helpful in detection of current infections. Moreover, there was no significant agreement between microscopical and serological (IFA) methods in diagnosis of malaria.

Keywords
Malaria; *Plasmodium vivax*; *Plasmodium falciparum*; Agreement; Microscopical; Serological; Iran

Tuberculin Skin Test and IGRA in the Detection of Latent TB Infection among Staff of the Polish Military Hospital

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Introduction
For many years, Poland has had a mandatory vaccination program against tuberculosis, which recommended repeated vaccinations from birth to adulthood. Therefore, the clinical value of the tuberculin skin test (TST) in diagnosing latent tuberculosis infection (LTBI) in Poland remains unclear.

Methodology
We conducted a study on the usefulness of the TST and QuantiFERON®-TB test (QFT) for the evaluation of the prevalence and risk factors of LTBI among Polish military health care workers. The study group consisted of the Polish military health care workers. TST and QFT were performed in each participant. The usefulness of TST and QFT was tested in relation to occupational risk factors.

Results
A total of 305 participants were included. A positive TST result was observed in 149 cases (48.9%) and a positive QFT result was observed only in 27 cases (8.9%). In the subgroup that declared contact with tuberculosis (n = 44), positive QFT and TST results were found in 20.5% and 63.3% cases, respectively. Past contact with tuberculosis was the only significant variable associated with a positive TST result. Independent variables associated with positive QFT results were older age, lower education level, longer period of work in health care, and previous contact with tuberculosis.

Conclusion
The QFT has a higher diagnostic value than the TST in the assessment of LTBI in Polish military health care workers.

Keywords
tuberculosis, infections, LTBI

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Introduction
Epidemiology data on “Military STI Prevention Program” are scarce. Tunisian military health service (MHS) is mobilized beside other specialized civil partners to fight against STI and AIDS. This paper aims to highlight the encountered difficulties when implementing and executing this program.

Methodology
Sources of information were the annual reports of the program steering committee and of the units’ medical officers for the period 2002-2014.

Results
This program considered three areas: staff training for STI management by syndrome approach and for youth outreach, raising awareness of young soldiers in situations of vulnerability and the provision of condoms. In parallel, an epidemiological surveillance system for STI has been implemented. During the 8 first years, 3 training seminars have been annually organized to the profit of 20 officers each and 5 training seminars for 40 paramedical. An average of 930 health education sessions were annually ensured and touched 40,603 subjects from 64 units including 41 recruits’ centre. Since 2011 revolution, activities have been reduced. Condoms were provided for free in all barracks. More than 250,000 condoms were annually taken from distributors. No case of AIDS was diagnosed since 2002. An average of 631 cases of STI was annually related. Urethral flow in men and vaginal flow in women were the most frequent STI. New recruits and Soldiers assigned in overseas operations were the most vulnerable.

Conclusion
This program allowed to reinforce precautionary measures regards to reproduction health in soldiers and to establish an epidemiological data on STI. It also facilitate the access to condom.

Keywords
public health program, Sexual transmitted infections, AIDS, condoms, syndrome approach, challenges

Determinants of Therapeutic Failure Among People Living with HIV (PLHIV)

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Introduction
Among the thirty-six indicators of the National Program against AIDS in the Democratic Republic of Congo, searching therapeutical failures is not systematically indicated. This study aims at determining the treatment failure rate and associated factors among people infected with HIV in the health district of Bukavu.

Methodology
A retrospective cohort study of 400 cases of PLHIV aged ≥15 years and under ART was established randomly. The association between treatment failure and the supposed risk factors was modeled in a multiple logistic regression. A probability &lt; 0.05 defined a statistically significant difference.

Results
The ARV treatment failure rate was 19.3%. The risk factors associated with treatment failure were: male gender (adjusted OR = 1.99 (95% CI: 1.14 to 3.48; p = 0.01), the duration of treatment (adjusted OR = 1.95 (95% CI: 1.07 to 3.54; p = 0.02) and the interruption of treatment (adjusted OR = 3.11 (95% CI: 1.66 to 5.82; p = 0.0004). 100% of patients failing were put in second line and had developed fewer opportunistic infections than those on the frontline.

Conclusion
Determinants are numerous but the above results show that treatment failure rate was very high in Bukavu district and was especially related to the treatment cut. The fight program against HIV should make the treatment available permanently and the patients should be educated to raise their awareness about the treatment in order to reduce the
high rate of treatment failure.

Keywords
PLHIV, antiretrovirals, therapeutic failure, Health District of Bukavu

Prevalence and risk factors of Syphilis, HSV-2, and HPV seropositivity in young Thai men, 2012

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Introduction
Sexually transmitted infection prevalence information in Thailand and surrounding countries is limited and rarely representative of national normative populations. We characterize Syphilis [Treponemapallidum (TP)], Herpes Simplex Virus type 2 (HSV-2), and Human Papillomavirus (HPV) seropositivity prevalence and risk factors among young males conscripted by lottery into the Royal Thai Army in 2012.

Methodology
IgG ELISA was used for HSV-2 and HPV identification on archived samples collected during conscript screening. Serial Rapid Plasma Reagin non-treponemal antibody followed by TP hemagglutination tests were used for TP identification. Associations between serologic and epidemiologic data (age, marital status, education level, and birth province) were explored using Logistic Regression.

Results
Seropositivity prevalence: HSV-2: 6.0%, HPV: 2.6%, and TP: 0.3%. After multivariable analysis: being from Central, Northern, or Southern Regions conferred 1.66 (p=0.09), 1.42 (p=0.34), and 1.15 (p=0.75) increased odds respectively of “A STI” (HSV-2, HPV, and/or TP) seropositivity compared to Northeastern Region; being currently married conferred a 1.46 increased odds compared to “single” (p = 0.18); lower education and increasing age were statistically strongly associated with “A STI” seropositivity.

Conclusion
HSV-2, HPV, and TP seropositivity prevalence was low in this population. Educational association is notable and actionable. Regional association (though not statistically significant) differs from previously published data. Expanded Public Health surveillance for STI and other infectious diseases in this random, nationally representative, male cohort can provide broad characterization of disease prevalence; allow exploration of associations with risk variables; and assessed over time can document public health intervention impact.

Keywords
sexually transmitted diseases, Treponemapallidum, Herpes Simplex Virus type 2, Thailand, prevalence, Syphilis, HPV, HSV-2, Human Papillomavirus, royal thai army, conscript, surveillance

Senegalese Response to Ebola Epidemic

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An outbreak of Ebola haemorrhagic fever was declared in March 2014 by W.H.O in Guinea Conakry. In fact, the first suspected cases were reported in December 2013, and confirmed in February 2014. It is a highly contagious infectious disease, due to Ebola filoviridae. The first reported outbreak happened in the DRC (Democratic Republic of Congo) former Zaire, specifically in the province of Yambuku, crossed by the river Ebola, which explains the name given to the virus that causes a rapidly fatal hemorrhagic fever. This epidemic started in the forest area located in the southern part of Guinea, bordering Sierra Leone and Liberia. The Guinean state, aided by partners somehow faced this disease, allowing a response to the epidemic in mid-April 2014. But a week later, unfortunately, an outbreak was declared, with extension to Sierra Leone,
Liberia and Nigeria, then extension to Senegal and outside Africa (USA, Spain, France ...). Therefore, W.H.O had to consider the epidemic as a major global health problem. In the three most affected countries, there have been more than 10,000 deaths. It is in this context that the Government of Senegal had established a national response strategy against the epidemic Ebola virus, which involves all sectors of the state in which the Armed Forces with its health system are fully integrated. Senegal is presently declared free of Ebola virus by W.H.O. The presentation will discuss all response activities conducted by the Ministry of Health and Social Action (MSAS) and those carried out in the Senegalese Armed forces.

Learning objectives
1. Senegalese response to Ebola epidemic at a national level
2. Senegalese Armed Forces Health Services preparedness to Ebola epidemic
The Effect of Body Mass Index and Other Factors on the Value of Aerobic Fitness in Indonesian Air Force Special Paratroopers

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Background
Several factors related to the value of aerobic fitness affecting performance in carrying out someone’s duties. This study aimed to identify body mass index (BMI) and other factors related to the value of aerobic fitness in Indonesian Air Force Special Paratroopers.

Methods
A cross-sectional study designed with purposive sampling among Indonesian Paratrooper. Data collection was conducted from 13 to 25 May 2013 in a Special Paratrooper Battalion. The data collected were age, height, weight and resting pulse rate before carrying out aerobic test. In addition, through interviews with questionnaires Par-Q and questionnaires by researchers including smoking habits, exercise habits. Aerobic fitness test determined by Cooper method which calculates the distance run in meters for 12 minutes. Data were analyzed by linear regression.

Results
Total subjects who completed the study were 135 persons. The value of aerobic fitness between 2000-3100 meters with average of 2552.78±250.66. There were three factors (age, BMI, and exercise habits over the last 3 months) associated with aerobic fitness. Increased age for 1 year and 1 point BMI decreased the value of aerobic fitness [coefficient regression (β) = -20.42; 95% CI = -26.32;- 14.53 and β = -22,28; 95% CI = -36.08;-8.49 respectively]. On the other hand, with the increased frequency for 1 day per week exercise increased 14.7 points of the aerobic fitness (β = 14.67; P = 0.046; 95% CI = 6.65;35.98).

Conclusion
Increased BMI and age lowered the aerobic fitness, while regular exercise increases the value of aerobic fitness in Indonesian Air Force Special Paratrooper.

Key words: aerobic fitness, body mass index, age, exercise, Indonesian Paratrooper

Comparison of LDL Cholesterol Between Hyperbaric Oxygen at 2,4 ATA 90 minutes and 1,3 ATA 60 minutes in Navy Soldiers

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Introduction
Conventional therapy for LDL cholesterol hasn’t optimal. Hyperbaric oxygenation (OHB), involving the use of oxygen under pressure greater than that found on earth’s surface at sea level, increases oxygen solubility in blood of healthy subjects. Multiple doses of OHB administration will increase oxygen tension in ischemia site. OHB also execute adaptiverespons that perform oxidative stress, and strongly induct mRNA ho-1, where Heat Shock Protein (Hsp70) roles as potential intermediet. All of that will decrease the arterosclerotic process and give cellular protective at patient with high LDL cholesterol.

Methodology
A single blind randomized clinical trial has been done in LAKESLA from Mei 2014 until September 2014. The study sample was high LDL cholesterol patients that fulfilled both inclusion and exclusion criteria. Subjects were divided into two groups, the control group was treated with 1,3 ATA 60 minutes, whereas therapeutic group was given standard therapy (2,4 ATA 90 minutes for ten days. LDL were compared at the first day the patient admitted to hospital, day-5 and day-10. The comparasion result was analyzed by Mann-Whitney test and t-test.

Results
There was no significant different in all moderator variable, LDL before treatment. There was a significant difference for LDL (p=0,010) at day-10 on standard therapy.
Conclusion
Measurement of objective markers revealed that OHB improves cellular protective in high LDL patients. It is most effective when we use 2,4 ATA 90 minutes for 10 days. Modification of the ROS factor and its downstream targets may be involved in effects of OHB.

Keywords
hyperbaric oxygen, LDL, cellular protective

Recent Trends In The War Against Malaria: A Military Perspective

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Introduction
Armed forces are deployed or pass through areas endemic to transmissible diseases, resulting in severe morbidity and sometimes death. Recent reports indicate that despite the consistent efforts of the different agencies including the military and preventive health organizations, malaria remains a considerable challenge for the armed forces deployed in the different regions. This study aims to review the recent trends in the control of malaria from a military perspective.

Methodology
A review of literature on the control of malaria was undertaken. Different search engines including Pubmed, Medscape, Google scholar, etc were searched for the literature on control of malaria.

Results
The results of this study showed that persistent exposure and sufferings by the armed forces and the general population have significantly altered the approach of dealing with the challenge of malaria. Armed forces of both the developed and the developing countries are continuously in pursuit to find ways to eradicate this serious hazard. A wide range of strategies including awareness programs and educational courses, development of personal protective gears and measures, surveillance and control techniques are being applied to face this challenge. A significant success has been achieved in reducing malaria burden by some countries.

Conclusion
Vector control, personal protection in the field, chemoprophylaxis, management of cases through early diagnosis and appropriate treatment to prevent death together with awareness programs and monitoring of parasite sensitivity are being applied in the management of malaria infection.

Keywords
Malaria, Control, Military, Trends

The Role of Hyperbaric Oxygen Therapy on Osteoarthritis Rattus Norvegicus Knee: An Experimental Study

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Introduction
Hyperbaric Oxygen (HBO) was believed as one of the modality to promote wound healing, including cartilage healing. Many author describes the effects of HBO on cartilage healing, but the process remain unclear. This experimental study was performed to show the healing process of cartilage injury by HBO in the osteoarthritis rat’s knee joint model.

Methodology
Thirty Rattus Norvegicus rat which have been undergone combination of ACL transection and total meniscectomy were assigned into three groups. Each group consist of ten rats. First group as a control group were not send into the chamber, second group was performed ten days of one series of HBO, and the last group was performed twenty days of two series HBO. All groups were compared each other, by count the number of chondrocyte that express Transforming Growth Factor – ?(TGF-?), the number of chondrocytes it self and the thickness of cartilage by immunohistochemical and histopathological investigation.
Results
There were increased the number of chondrocytes that express TGF-β, the number of chondrocytes itself and the thickness of cartilage in all groups. There were strong correlations between duration of HBO with number of chondrocytes that express TGF-β (p=0.000, r=0.604), the number of chondrocytes itself (p=0.000, r=0.854), and the thickness of cartilage (p=0.000, r=0.931).

Conclusion
This study indicates that HBO can promote healing of cartilage injury by increasing the number of cartilage that express TGF-β, the number of chondrocytes and the thickness of cartilage. These findings also suggest that HBO may be promote cartilage healing for osteoarthritis patients.

Keywords
hyperbaric oxygen, cartilage healing, cartilage injury

Time for an Academic Degree? Military Medicine and Veteran Health - A Specialty Area of Practice

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Introduction
Military medicine and veteran care is a specialty based on the unique attributes of military service member population and health care delivery systems. In the United States, there are over 22 million beneficiaries in the Veterans Administration and over 9 million in the Military Health System (MHS). The mission of the MHS is to provide medical support to military operations worldwide, including combat medical services, force readiness, health care delivery, and public health. Consequences of combat and military service are enduring and affect veterans and their families.

Methodology
Ten focus groups, interviews, and brown bag sessions were conducted with key personnel in veteran and military health care and academia in Colorado and Washington, DC to determine the need for academic degrees that specifically address the needs of this population.

Results
There was overwhelming support for a specialty area of practice, and specific needs identified included maintaining readiness, combat casualty care, biobehavioral health, aging, family dynamics, and systems issues. Graduate academic programs (Graduate Certificate, Masters and Doctoral Degrees) are proposed and the first course, Veteran and Military Health Care Systems, launched January 2015. Projected courses based on this study will be related to behavioral health, traumatic injury, telehealth, environmental/occupational health, aeromedical evacuation, humanitarian assistance, global/public health, rehabilitation, aging, leadership, disability evaluation, and resiliency.

Conclusion
A body of knowledge related to military medicine and veteran health exists, along with numerous health care professionals who are devoted to caring for this population, which are indices of a discipline worthy of specialized academic education.

Keywords
military medicine, military personnel, veterans, veterans health
Effect of Pollutants and Smoking on Forced Expiratory Volume in One Second (FEV1) among Military Aircraft Technician

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Introduction
Background: Military aircraft technicians exposed to pollutants and solvent substances in the workplace and cigarette smoke can lead to impairment of forced expiratory volume in one second (FEV1) which can degrade the performance of aircraft technicians. The research objective is to prove the effect between pollutants and smoking on FEV1 among military aircraft technicians.

Methodology
Method: This cross-sectional study with purposive sampling among military aircraft technician who performed 16 to 17 May 2013 in the 021 Skatek Halim PK and LakespraSaryanto. Data obtained by the researchers with the interviews using a questionnaire and the results of spirometry. Analysis of the data using linear regression.

Results
Result: Research subjects as much as 135 people. FEV1 value between 57-122 with a mean of 87.88 and standard deviation (SD) 12.61. Pollutants and smoking duration is the dominant risk factor for FEV1 value. With rising 1 scores pollutants will decrease the value of the work at 2.57 FEV1 [regression coefficient (r) = -2.57, P = 0.000]. In addition to the increase in 1 year smoking duration will decrease the value of FEV1 at 0.22 (r = -0.22, P = 0.015).

Conclusion
Conclusion: Pollutants and smoking duration lowers the value FEV1 on military aircraft technicians

Keywords
forced expiratory volume in one second, smoking, pollutants, aircraft technician

Assess the prevalence of skin disease among workers of open vessels of Marine Corps

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Introduction
A relatively common skin disease in people who works in the sea and exposure to heat, high humidity, wind and salt and because and lack of knowledge of skin hygiene, create the need to find the type of skin effects, the prevalence of diseases, methods of prevention and treatment. Apparently, the incidence of diseases is inevitable and however jobs in sea and beach has occupational consequences that they are accustomed or symbiotic to them. Decrease of prevalence and frequency is the only way of Preventive measures, by knowing the amount of diseases frequency it is possible to have a suitable prediction for annually planning the type and doses of drug. But by the right strategy of prevention, this is possible to reduce prices.

Methodology
This is a cross-sectional (prevalence) study. Data analysis method was done as consecutive sampling (Third zone staff floating Ndsa). By knowing that only 70% of dermatology diagnosis is acceptable (30% error), or (d) , the confidence level was considered (95%) or (z); according to previous studies, skin diseases prevalence was considered 26% or (p), using the formula to estimate the sample size in qualitative traits, sample size was estimated at least 203 people. \( Z^2 \times P(1-P)/d^2 \) and the statistical community includes third region Ndsa floating population (those who were willing to cooperate in the project. But the number of samples was calculated in the formula). Method of data collection including all variables, response options and field test results obtained and completed from each construct also rendered in book form. The information achieved from vessels and structures were completed by web sites, catalogs and advertising and evaluated at the final assessment.

Findings
223 people have been participated as a volunteer in this project that all of them were male. The average age of healthy individuals were (31.8±4) and for patients were (30.4±4) that there were no statistical communication to the disease (PV>0.5). The average working experience years in healthy individuals were (12.0±4) and in patients were (11.32±4) that there were no statistical communication to the disease (PV>0.5). In terms of working times in a hot environment, 75.29% of healthy cases were less than 2 hours per day and 75.24% of patients were more than 3 hours per day that
was statistically significant with PV<0.001. as well as sun exposure times in healthy cases were 50% less than 2 hours per day and in patients were more than 3 hours per day that was statistically significant with PV<0.05. In terms of the status of bathing, in healthy people were 51.54% more than 4 times a week and in patients were 84.7% less than 3 times a week that was statistically significant with PV<0.02. In other parameters like sports there were a clear connection between healthy and patients with PV<0.5. in terms of consumption of fruits and vegetables, also there were a clear difference between healthy people with high consumption and patients with low consumption (PV<0.05). in terms of smoking, in healthy people were 17.69% and in patients were 37.65% that was statistically significant with PV<0.05. in terms of using sunscreen and moisturizers and about covering status, there weren't any relation and also. In terms of the history of complete or incomplete treatment of skin disease, the highest treatment was for herpes (100%) and no treatment was observed in treatment of mole.

Discussion
There's not performed any study in Iran on the frequency of skin diseases in workers of marine vessels. So there's not any possibility of comparing it with similar cases. Working in hot environments and exposed to the sun according to effects of them on skin health, increase the prevalence of skin diseases. Business and special mission with performing by persons, because of stressful nature of them and poor relative situation of bathing in these people, skin diseases can be intensify. The prevalence of skin disease in the population under study was 39.53% that was slightly higher than similar study that was performed by ministry of health in 8 provinces at 1993-94 (26%) which reflects the influence of heat and sunlight on the prevalence of skin diseases. (Average temperature of mahshahr is 4.8 degrees above the average temperature of Iran). The most common skin disease in this study was dermatitis and then dry skin which are known and associated with the sun and heat. There were no observation of Relationship between age and skin condition and work experience; in this study the prevalence of dermatitis was seen higher than total population of the country. Perhaps due to the stressful nature of the job and contacts with sea water and salt. The fungal disease outbreaks due to high moisture, heat and low bath is recommended. The interesting thing about gal was that both cases were soldier and it can be assumed that resting at barracks and the lack of personal hygiene can justify the transmit of disease.

Prevalence and metabolic risk factors of non-alcoholic fatty liver disease among army personnel in Shiraz

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Background and aims
Non-alcoholic fatty liver disease (NAFLD) is a common causation of chronic liver disease worldwide; however, the prevalence of NAFLD is not well known and is estimated to be 20-30% in adult population of developed countries. Most NAFLD patients are asymptomatic and are occasionally diagnosed following abnormal biochemistry tests. The present survey was aimed to study prevalence and metabolic risk factors of NAFLD in a population of Iranian army personnel in Shiraz, south Iran.

Methods
This cross-sectional study was performed on 200 individuals of a military camp personnel. A baseline questionnaire was completed for each individual and other related data such as FBS, HDL, LDL, Triglyceride and liver enzymes measured by biochemical tests. All individuals surveyed for metabolic syndrome and liver examination by ultrasonography. Statistical analysis was performed using SPSS software and P values less than 0.05 considered significant.

Results
Ultrasonography assay confirmed NAFLD in 58 participants (29%). Mean age of NAFLD patients was 40.71±6.84 and significantly higher than healthy individuals (37.07±7.03) (p=0.001). NAFLD patients showed significantly higher profiles in body mass index and plasma tri glycerides, Cholesterol and ALT (p<0.05), however there was no significant difference on FBS, HDL, AST and ALP between healthy and NAFLD individuals (p>0.05).

Conclusion
Our results show that NAFLD is highly prevalent in studied population and is commonly associated with elevated body mass index and inimical life style. Due to mean age of studied population, it can be concluded that NAFLD related NASH would be a common cause of advanced liver disorders in early future.
Cardiovascular Risk Screening in the Armed Forces Personnel

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Introduction
Sudden death is a condition that may be caused by heart conditions, such as coronary artery disease (CAD), cardiomyopathies and arrhythmias. The aim to minimize the potential sudden deaths, especially regarding young people, is essential for every society. Heart screening of conscript soldiers gives the opportunity to prevent dangerous conditions.

Methodology
Conscript soldiers undergo clinical examination, electrocardiogram and a detailed history. If nothing abnormal is found, no further tests are conducted. If something is abnormal or unclear, further tests are done in a Military Hospital and may include cardiac ECHO, treadmill test, 24-hour tape and blood tests.

Results
From February 2012 to February 2015, 736 soldiers participated in the research. 83 of them (11.28%) were sent to the military hospital for further evaluation. 65 (8.83%) went through cardiac ECHO, 9 (1.22%) treadmill test and 2 (0.27%) 24-hour tape. Overall, 3 soldiers (0.4%) were ultimately found to have conditions that are regarded as dangerous or potentially life-threatening. 2 of them were found to have Wolff-Parkinson-White syndrome and went through electrophysiological study and then radiofrequency ablation, while 1 was found to have ventricular septal defect (VSD).

Conclusion
Cardiovascular risk screening in the armed forces personnel, based on the successful “cardiac risk at young” screening, has proved important in preventing sudden cardiac death. Its simplicity and credibility make it easy to apply in large scale in the armed forces.

Keywords
Cardiovascular risk, Wolff-Parkinson-White, ventricular septal defect, heart screening, arrhythmia

Prior Head-down Tilt Does Not Impair the Cerebrovascular Response to Head-up Tilt

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Introduction
To testify the hypothesis that cerebrovascular autoregulation was not impaired during head-up tilt (HUT) that followed brief exposures to varying degrees of prior head-down tilt (HDT).

Methodology
Cerebral mean flow velocity (MFV) and cardiovascular responses were measured on 10 healthy, young men and women in transitions to a 60s period of 75° HUT that followed supine rest (Control) or 15s HDT at -10°, -25° and -55°.

Results
During HDT, heart rate (HR) was reduced for -25° and -55°, cardiac output was lower at -55° HDT. MFV increased during -10° HDT, but not in the other conditions even though blood pressure at the middle cerebral artery (BPMCA) increased. On the transition to HUT, HR increased only for -55° condition, but stroke volume and cardiac output transiently increased for -25° and -55°. Total peripheral resistance index decreased in proportion to the magnitude of HDT and recovered over the first 20s of HUT. MFV was significantly less in all HDT conditions compared to the Control in the first 5s period of HUT, but it recovered quickly. An autoregulation correction index derived from MFV recovery relative to BPMCA decline revealed a delay in the first 5s for prior HDT compared to Control but then a rapid increase to briefly exceed Control after -55° HDT.

Conclusion
This study showed that cerebrovascular autoregulation is modified by but not impaired by brief HDT prior to HUT and that cerebral MFV recovered quickly and more rapidly than arterial blood pressure to protect against cerebral hypoperfusion and potential syncpe.

Keywords: Push-pull effect; Transcranial Doppler ultrasound; Cerebrovascularautoregulation
Hemoglobin and Other Risk Factors Related to Time of Useful Consciousness among Candidates and Indonesian Military Aircrews

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Background
Time of Useful Consciousness (TUC) is span of time during when an aircrew exposed hypoxia before experiencing incapacitation. Haemoglobin (Hb) influences the oxygen saturation that determines oxygenation of the body tissue. This study aims to identify the factors affect WSE on candidates and military aircrew in Indonesia.

Methods
Data taken from the results of Indoctrination and Aerophysiologic Training (ILA) including medical examination and hypoxia demonstration in the hypobaric chamber at Lakespra Saryanto during January-May 2014, consist of candidates and military aircrews. TUC determining based on the ability of doing stacking down simple sums two digits during hypoxia demonstration in hypobaric chamber at 25000 feet altitude simulation. TUC was determined since the oxygen masker was removed until the subjects were false to answer the tasks two consecutive or did nothing in 15 seconds. Dominant factors of TUC was analyzed by linear regression.

Results
Candidates and military aircrews carried out the ILA were 183 persons, 153 met the inclusion criteria. TUC range 80 to 300 seconds, Hb level 13 to 18 g/dL. The dominant factor extend TUC was Hb, while shortening were BMI and age. Each 1 g/dL Hb extend TUC 14.7 seconds [coefficient regression (β) = 14.677 ; P = 0.010]. Increasing BMI 1 kg/m2 shorten TUC 3.3 seconds (β) = -3.274; 95% confidence interval (CI) = -8.287;1.738; P = 0.199]. Addition of age 1 year shorten TUC 3.9 seconds (β = -3.917; P = 0.000).

Conclusion
Increasing Hb extends TUC, high BMI and addition age shorten TUC.

Key words: hypoxia, time of useful consciousness, aircrew, haemoglobin

Ramadan Fasting and Type 2 Diabetics: Influence of Regular Military Training

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Introduction
It is obligatory for all healthy adult Muslims to fast from dawn to sunset daily during the month of Ramdan, which these years runs during summer. As well as, it is a priority for the military personnels to keep on regular training. As is customary, most reduce their daily activities during this period.

Methodology
We studied the biochemical and clinical changes in 42 male T2 diabetics. All of our patients were military personnels. They were aged 45.7 yr (range 23 – 49); had had diabetes for 5.4 yr (range 4 – 11); 20 took light to moderate regular exercise [MET 2-4] “GroupI” and 22 did not “GroupII”.

Results
After 3 weeks of fasting, Fasting plasma sugar fell from 9.7±6.1 to 6.9±4.1 mmol/l (p = 0.049) in GroupI and from 10.6±6.8 mmol/l to 10.5±3.2 mmol/l (NS) in GroupII. HbA1c showed a non-significant changes, while serum triglycerides fell significantly in both groups. Serum cholesterol did not change. Serum creatinine, uric acid,BUN, total protein, ALT and AST showed a non-significant increase during the fasting period in both groups. No patients were noted to have any significant weight reduction. Non showed any documented Ketonuria or hypoglycemia. 70% of GroupI and 55% of GroupII considered their diabetes to be improved.

Conclusion
We concluded that T2 diabetics who wish to take light to moderate regular military exercise during Ramadan should encourage to do so. More investigations are recommended. A follow-up study is in progress. Different results may be obtained if similar study was conducted during Ramadan in winter.

Keywords
Diabetes, Ramadan Fasting, Military Training
Factors Influencing Adherence to Treatment Regimen For Patients With Type 2 Diabetes

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Introduction
Self-management has emerged as an approach to enhance quality of care for patients suffering from long term conditions, and to control costs of health services. So far, however, the effects of this approach remain unclear. The objective of this research is to present a framework for applicable evaluation of diabetes self-management programmes to investigate the factors that influence adherence of patients to diabetes self-management activities in Saudi Arabian Military Hospitals.

Methodology
This research has been conducted between May 2012 and June 2013. A cross sectional survey was conducted using a self-administered questionnaire for data collection. The research model was developed after conducting a systematic review of the literature to be tested using different statistical techniques. Data for this research were collected from diabetes centres and clinics in military hospitals in the main five regions of Saudi Arabia.

Results
The model shows the outcomes of self-management in terms of its effect on clinical outcome, on quality of life, and on utilization of health services. Analysis of data revealed that behavioural theories support the core assumptions of self-management. In general high R2 values indicated that the effect sizes were substantial, implying that the observed data were an overall good fit to the model.

Conclusion
The evaluation model is valid to evaluate diabetes self-management programmes, and to understand the factors affecting patients’ adherence to treatment regimen to tailor education programmes accordingly. The model can also be used as a decision-making supporting tool.

Keywords
Diabetes self-management Saudi Arabia

Comparison of Functional Outcome (NIHSS) and Heat Shock Protein 70 between Standard Therapy and Adjuvant Therapy

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Introduction
Multiple doses of OHB administration will increase oxygen tension in ischemia site. OHB also execute adaptativerespons that perform oxidative stress, and strongly induct mRNA ho-1, where Heat Shock Protein (Hsp70) roles as potential intermediet.

Methodology
A single blind randomized clinical trial has been done in neurology wards of Dr. Ramelan Navy Hospital from December 2008 until March 2009. The study sample was acute cerebral infarction patients that fulfilled both inclusion and exclusion criteria. Subjects were divided into two groups, the control group was treated with standard therapy, whereas therapeutic group was given standard therapy and OHB 2,4 ATA 90 minutes for ten days. NIHSS and Hsp70 were compared at the first day the patient admitted to hospital, day-3, day-7 and day-10. The comparasion result was analyzed by Mann-Whitney test and t-test.

Results
There was no significant different in all moderator variable, NIHSS scores and Hsp70 before treatment. There was a significant difference for NIHSS (p=0,043) at day-5 on OHB groups. OHB also tends to elevate Hsp70 level but not statistically significant (p=0,223)

Conclusion
Measurement of subjective markers revealed that OHB improves penumbral oxygenation in focal ischemia, but not statistically significant for objective markers (Hsp70 level). Modification of the ho-1 factor and its downstreamtargets may be involved in effects of OHB.

Keywords
hyperbaric oxygen, NIHSS, Hsp70, infarct thrombotic stroke.
Prevalence of fracture risk in 40-90 year-old women in Baan nagnarm community, Chachoengsao province by using FRAX®

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Introduction
Osteoporosis and fracture are serious problems. Risk of osteoporosis and fracture will increase another 2-3 times more in the next 10 years due to increasing elderly population. FRAX® is effective and beneficial for populations in rural communities for assessing fracture risk and analyzing for risk factors. Determining the prevalence of fracture risk and risk factors for fracture in women 40-90 years in a Thai rural community.

Methodology
Data was obtained from women 40-90 years in Baan nagnarm community, Takradarn, Sanhamchaiket, Chachoengsao. 10-year probability of major osteoporotic fracture and hip fracture were predicted using FRAX® and separated into high risk and low risk.

Results
Of 294 women, 285 were included. Prevalence of high risk was 13%. The factors associated with high risk are sedentary occupations who are 3.5 more at risk than heavy work occupations. Breast feeding had 1.04 times more risk and duration of menopause for 13 years or more are 14.1 times.

Conclusion
Risk of fracture in women aged 40-90, living in rural community, determined by FRAX® is relatively low compared with that in other study. Furthermore, using multiple logistic regression, we assessed associations between high risk of fracture and duration of menopause, sedentary occupation and duration of breastfeeding. Using FRAX® for screening high risk population in rural, controlling of risk factors, and appropriate lifestyle modification for prevent fragility fracture should be promoted to minimize the physical and financial burdens of fragility fractures in the elderly.

Keywords
Fracture, Osteoporosis, Prevalence, Risk factors, Thailand

Prevalence of Patent Foramen Ovale in Experienced Divers Using Trans-esophageal Echocardiography

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Introduction
Prevalence of patent foramen ovale (PFO) varies with age and is reported to be 18% to 36%. Some studies have addressed the change in prevalence of PFO in divers over time. The aim of this study was to show the prevalence of PFO in a set of 18 professional military and commercial divers with at least 20 years of diving experience.

Materials and Methods
A group of 18 professional military divers (which all had a second occupation of commercial diving) without any history of cardiac illness were examined through trans-esophageal echocardiography. All divers had over 20 years of experience, with more than approximately 20000 hours of diving. Trans-esophageal echocardiography (TEE) was performed with a 5-MHZ phased multiple probe (Vivid 3, GE Medical Systems). After evaluation of the inter-atrial septum with and without color Doppler, two contrast studies were performed in each patient for definitive diagnosis of PFO. A right-to-left shunt was diagnosed if micro-bubbles appear in the left atrium within three cardiac cycles.

Results
Thirteen divers (72%) had PFO of different types (I or II). One of them was large and others were small. Eighty five percent of subjects (11 out of 13) of them had type I and the rest had type II right-to-left shunt.

Discussion
The prevalence of PFO in divers was more than its prevalence in general population and also, more than its prevalence in the population of 20-30 years old. The prevalence of PFO will be increased in professional divers over time.
Cleidocranial Dysostosis in Adult: A Neglected Case with Different Characteristics

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Introduction
Cleidocranial Dysostosis (CCD) is a rare, autosomal dominant skeletal disorder. It primarily affects the bones that undergo intramembranous ossification.

Methodology
20-year-old man, came to hospital with bilateral shoulder pain while lifting heavy weights. On physical examination, bilateral shoulders were pulled down and both of the clavicles were not palpable. Prominent forehead, various teeth abnormalities were observed. His thorax was cone shaped. Bilateral clavicles were hypoplastic. On cervical and superior thoracic vertebrae posterior fusion defects were seen. Cranial radiographies revealed defective bone structures, diastasis on vertex of the head, vomian like bone formations and thickening of the cranium. Panoramic radiography revealed erupted teeth, continuous and supernumerary teeth which were buried that presented on the superior and inferior mandibula. Bilateral humeral bowing, straightening on cervical lordosis, thoracolumbar sclerosis and loss of vertebral body height at the posterior part of T8-9-10 vertebrae were also seen.

Results
Clavicle, skull bones and dental findings of the case supports the diagnosis of CCD. Although dental structures of the patient shows characteristic features, he had never referred to a dentist and had not any complaint about his teeth. Another different feature from previously presented cases, there were approximately 30 permanent and supernumerary teeth embedded in the upper and lower mandibula of the patient.

Conclusion
CCD is a rare condition with different characteristics especially in neglected cases as we presented. The orthopedic surgeons have to know clinical and radiological finding for early diagnose of the disease. Multidisciplinary intervention is also very important for successful outcomes.

Keywords
clavicle dysplasia, supernumerary teeth, skeletal disorder, cleidocranial dysostosis
Early Results of Thoracic Sympathectomy Operations for Hyperhidrosis

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(1)GATA HEH - Turkey

Introduction
Nowadays the sympathectomy with clips (SC) which was started to reduce the complication and increase the patient satisfactory is frequently favored surgical procedure. In this study we aimed to present 68 patients who were undergone SC and the early outcomes of these patients.

Methodology
From January 2012 to December 2012, a total of 68 consecutive patients with palmary and axillary hyperhidrosis were enrolled. A total of 136 thoracoscopicsympathectomies were performed. Thirty patients underwent a conventional T3, 4 clipping, 38 underwent T3 clipping. There were 55 males and 13 females, and mean age 23.3 years. Compensatory sweating was graded; absent, minor and major (adversely affect life). All patients were evaluated in compensatory sweating, complications, recurrences, patient’s satisfaction and healing of hyperhidrosis. All patients were seen one month following procedure and then contacted by phone.

Results
The mortality was not observed in early or late period. The patients were followed up for average 12 months (9-16 months). Postoperative complication was not observed except compensatory sweating. The compensatory sweating was observed in 29 (43%) of patients at different parts of body of patients.

Conclusion
Thoracoscopic sympathectomy should be the choice of treatment in palmar and/or axillary hyperhidrosis with lower operative morbidity rates and higher postoperative satisfaction. We think that this operation can be performed safely and esthetically with the aid of two thoracoports.

Keywords
sympathectomy, hyerhidrosis, compensatory sweating

SOS: An Intervention to Reduce Consumption of Added Sugar, Oil and Salt in the Sri Lanka Navy

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(1)Sri Lanka Navy

Introduction
Added sugar, oil and salt have become an integral component of modern diet particularly in fast food, where taste has become dependent upon the addition of these ingredients. However, there is evidence to suggest that excessive consumption of these ingredients leads to metabolic syndrome, a chronic non-communicable disease group leading to high incidence of ischaemic heart disease and stroke. The 55,000 strong Sri Lanka Navy has a captive population of approximately 88% who are ‘living in’ and consequently consuming food prepared within the organization unless they are on leave. Hence, the general objective was to gradually reduce the high levels observed in the baseline survey.

Methodology
The programme has been operational in all 07 naval areas since the first quarter of 2008 to date by way of a threefold strategy. The first was gradual reduction in the quantity of the ingredients at the point of supply. The second was health education targeting the consumers on the long term benefits. The third was again education, targeting personnel who were directly involved in the procurement of rations and food preparation.

Table: Daily per capita consumption of sugar, oil and salt

<table>
<thead>
<tr>
<th>Year</th>
<th>Quarter</th>
<th>Sugar (g)</th>
<th>Oil (g)</th>
<th>Salt (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Base Line</td>
<td>84.1</td>
<td>20.1</td>
<td>28.7</td>
</tr>
<tr>
<td>2008</td>
<td>1st</td>
<td>63.31</td>
<td>24.78</td>
<td>19.18</td>
</tr>
<tr>
<td></td>
<td>2nd</td>
<td>65.51</td>
<td>26.41</td>
<td>19.66</td>
</tr>
<tr>
<td></td>
<td>3rd</td>
<td>71.02</td>
<td>28.5</td>
<td>19.42</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>27.0</td>
<td>26.0</td>
<td>19.06</td>
</tr>
</tbody>
</table>
Results
Progress in respect of added salt has been satisfactory with a reduction in per capita consumption of approximately 50%. Similarly a reduction of approximately 35% has been achieved in respect of added sugar. However, reduction in added oil has shown no progress, even showing a paradoxical increase in some quarters.

Conclusion
Addition of popular menus and complaints of poor taste impeded progress. Further reduction will require intensification and more focus on all three strategies.

Keywords
sugar, oil, salt, Metabolic syndrome

Prevalence of Suspect Oral Candidiasis on Patients with Diabetes Mellitus Hospitalized at dr. Ramelan Hospital

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Introduction
Diabetes Mellitus (DM) is syndrome of abnormal carbohydrate, fat, and protein metabolism that result in acute and chronic complication due to the absolute or relative lack of insulin. There are categories of DM: DM type I, DM type II, Gestational.
DM, and other type of DM. Clinical manifestation of oral mucosa tissue lesion in DM patients are Burning Mouth Syndrome (BMS), Gingivitis, Periodontitis, Oral Lichen Planus (OLP), xerostomia, Halitosis, Geographic Tongue RekurenAphtous Stomatitis and one of them is Oral Candidiasis. Objectives: The aim of this study was to determine frequency distribution of Oral Candidiasis in DM patients who were hospitalized in rumkitalDr.Ramelan Surabaya.

Methodology
The type of this research was a descriptive study. The method was clinical observational. The samples were DM patients who were hospitalized in RumkitalDr.Ramelan Surabaya who were hospitalized on October until November 2010. The samples are DM less than 5 years, 5-10 years and more than 10 years, male and female and cooperative.

Results
All data in this study were tabulated according to most suffered age 50-59 DM patients with 33.3%, sex in male 63%, and female 37%. Acute Pseudomembrane Candidiasis with 25.9%, Acute Atropic Candidiasis with 25.9%, Chronic Atropic Candidiasis 7.4% and no patients with Chronic Hiperplastic Candidiasis.

Conclusion
Acute Pseudomembrane Candidiasis in 25.9% and Acute Atropic Candidiasis in 25.9% was the highest frequency of clinical manifestation of Oral Candidiasis in DM patients.

Keywords diabetes mellitus, oral candidiasis, Hospital Ships

Non-small Cell Lung Cancer Management Using 4-D IGRT-IMRT: A Single Center Experience

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Introduction
Non-small cell lung cancer (NSCLC) is the most commonly diagnosed and leading cause of cancer death in males worldwide. Surgery, radiotherapy and chemotherapy modalities are used to treat lung cancer either as sole or combined modality approach. The most recent radiotherapeutic management of NSCLC is 4-Dimensional Image-Guided Intensity Modulated Radiotherapy (4-D IGRT-IMRT). In the current study, we evaluated the efficiency of 4-D IGRT-IMRT in definitive NSCLC management.

Methodology
Patients receiving definitive 4-D IGRT-IMRT radiotherapy at Gulhane Military Medical Academy Radiation Oncology Department underwent preradiotherapy radiation treatment planning with and without 4-D ABC (Active Breathing Control) System, and 2 treatment plans of each patient with and without breath control were comparatively assessed before delivery of 4-D ABC-guided radiotherapy.

Results and Discussion
Median age was 59 years. Median radiotherapy treatment duration was 7 minutes. Median threshold for breath-holding was 1.4 liters. Median tumor excursion in free-breathing without breath control was 9 mm, 6 mm, and 5 mm in superior-inferior (SI), anterior-posterior (AP), and left-right (LR) directions, respectively; whereas median tumor motion with ABC was 3 mm, 2 mm, and 2 mm in SI, AP, and LR directions, respectively. The lessened tumor motion with ABC usage in all directions resulted in improved normal lung tissue sparing with statistical significance (p<0.001).

Conclusion
4-D IGRT-IMRT using ABC system allowed excellent normal lung tissue sparing through robust tumor immobilization during irradiation. The incorporation of 4-D IGRT-IMRT into NSCLC management provides utmost normal lung tissue preservation while achieving effective tumor eradication.

Keywords Lung Cancer, Image-Guided 4-D Radiotherapy
Community-based Screening of Dementia and Associated Factors in the Elderly: Rural Thai Community

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Introduction
Dementia is a mental health and social function related issue with growing social concern. According to World Health Organization (WHO), dementia will become the 2nd global health problem in the next two decades. In the elderly group, dementia progressively increases in numbers throughout each year. Detection at a very early stage of dementia should set an alarm for proper managing the community burdened.

Methodology
A cross-sectional study was conducted by interviewing all who aged 60 years old and over. Questionnaire consists of 3 parts: demographic data, Mini Mental State Examination-Thai 2002 (MMSE) and depression test.

Results
The dementia screening test showed the prevalence of cognitive impairment at about 17.8% (n=382). We found factors which impacted disease progression were age (p-value<0.001), education (p-value=0.006), family history (p-value=0.006), social activity participation (p-value=0.026) and reading (p-value=0.001). When adjusted by other factors, age (adjusted odds ratio=14.7, 95.0%CI=6.1-35.5, p-value=0.001) and family history (adjusted odds ratio=4.7, 95.0%CI=2.0-10.9, p-value=0.001) seemed to be risk factors. On the other hand, the protective factor was reading (adjusted odds ratio=0.2, 95.0%CI=0.1-0.7, p-value=0.009).

Conclusion
Since majority of the elderly in this community were below average on literacy. Without proper arrangement, dementia is going to be one of major problems in the community. Apart from reading books, which may not be applicable for this generation, brain-healthy lifestyle could publicly be promoted now.

Keywords
Dementia, elderly, prevalence, associated factors, Palliative Care

A Proposal Biomarker to Assess Soldier’s Semen Quality in Saharian Engaged Units

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Introduction
Male infertility is one of the most conditions that destroy the soldier’s morale. It is a factor in 50% of cases but no cause can be diagnosed in approximately 25% of infertile males, which is termed ‘idiopathic infertility’ and is linked to oxidative stress as a result of the hard conditions of saharian military units. The present study aimed to assess the relationship between semen quality analyzed in term of total lipid peroxides, the total antioxidant capacity and plasmatic neutrophil gelatinase associated Lipocalin Lcn-2 in idiopathic infertility.

Methodology
Seminal and blood plasma of 44 soldiers including fertile and infertile were collected and analyzed by spermograme, total peroxide lipids by malondialdehyde (MDA), total antioxidant capacity (TAC) by Oxygen reactive absorbance capacity (ORAC) assay and Lcn-2 by immunofluorescent assay.

Results
Plasmatic Lcn-2 was higher in infertile than control men but not statistically significant (p=0.098). However, seminal MDA was 1.7 fold higher (p=0.000) while TAC was 1.79 fold lower (p=0.003) in infertile men without any correlation with sperm parameters. We found a strong correlation between plasmatic TAC and MDA in seminal plasma (r=-0.753; p=0.000); thereby, we have determined an ORAC cut-off of 1,035 mole ascorbic acid eq/l associated with sperm toxicity by MDA (sensitivity=100%, specificity=94.4%; AUC=0.965, p=0.000).

Conclusion
We confirm that elevated seminal plasma MDA and low TAC have significant role in the etiology of male infertility. We propose the plasmatic ORAC value as an easier test to assess sperm oxidative status, that may be exploited as a biomarker for soldier’s semen assessment and therapy.

Keywords
Soldiers idiopathic infertility, ORAC, sperm parameters, oxidative stress biomarker
Management of Psychiatric Disorder in Refugee Camp of Mbera.

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Introduction
In 2012, the population of Mali fled to the north of the Mauritania, due to the occupation of their villages by the armed groups of terrorist. Therefore Mauritania government has created a Mbera camp to leave in the normal conditions.

Methodology
In order to avoid the epidemic diseases; the Mauritania government thru the military services has set up with the NGOs a special medical survey to detect any disease. The subject of this study is to evaluate the prevalence of psychiatric disorders in a sample of this traumatized population of 87 people.

Results
The sex ratio is 2/1 in the favor of the men. the average age is 38 years with extreme values of 6-70 years. The goal is the search for secondary disorders to post-traumatic syndrome (war situation + displacement, precarious living conditions). The results show a dominance of epilepsy (32.1%), behavioral problems (26%), mental retardation (9.1%), post-traumatic syndrome (6.89%) with a frequency of 90% in adults.

Conclusion
The treatments used included psychotherapy sessions, plays, and drug management Finally, there is a good response to treatment with more than 65% positive response to treatment.

Keywords
Psychiatric disorder refugge, Psychiatric, Temporomandibular Disorders, refugees

Is Combat Exposure Associated with Cannabis Use?

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Introduction
Cannabis also known as marijuana is an illicit psychoactive substance derived from the Cannabis sativa plant and its regular use is associated with cannabis dependence syndrome. Studies in high-income countries show that the pattern of drug initiation starts with alcohol and tobacco, followed by cannabis use, and then other illicit drugs. The objective of this study was to ascertain the prevalence of cannabis use among Sri Lanka Navy (SLN) personnel and identify any relationship with combat exposure.

Methodology
This cross sectional study was carried out among representative samples of SLN Special Forces (Special Boat Squadron) and regular forces deployed in combat areas. A total of 259 Special Forces and 412 regular navy personnel were studied using simple random sampling. Personnel who had served continuously in combat areas during the one year period prior to end of combat operations were included and females were excluded. Cannabis use was defined as smoking cannabis at least once during the past 12 months.

Results
Prevalence of cannabis use was 5.22%. There was no significant difference in prevalence of cannabis use among Special Forces personnel compared to regular forces. Significantly higher risk of cannabis use I associated with age 18-24 years [OR 4.42], personnel who were never married [OR 2.02], and a lower educational level [OR 4.02]. There was significant association between cannabis use and hazardous alcohol use [OR 4.74].

Conclusion
There was no significant association between cannabis use and combat exposure. Prevalence of cannabis use was less than that reported among military personnel in several other countries.

Keywords
Cannabis, combat exposure, military
Heroism in the Sanitary Corps. Military Doctors who Served Their Countries above and Beyond the Call of Duty.

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Introduction
Sanitary Corps is considered worldwide as an armed forces branch with supportive role, that avoids actual combat action. History, however, has shown some unique stories of military doctors that proved themselves not only for their medical role, but also for their bravery and self-sacrifice.

Methodology
8 doctors and dentists from 5 countries (Jason Dragasis and FokasFokas from Greece, Benjamin Salomon and Weedon Osborne from the USA, Arthur-Martin Leake and Noel Chavasse from the United Kingdom, Boris Begoulev from Russia and Bruno Falcomata from Italy) were chosen as examples of heroism.

Results
The aforementioned doctors had a common characteristic: They were all awarded the highest award for bravery in the battlefield for their countries, as criteria of recognition of their heroic deeds.

Conclusion
As opposed to what is widely believed, medical doctors and dentists from many countries have demonstrated extreme bravery in the battlefield, proving that they are not only scientists, but heroic soldiers, too. Notably, the 2 out of only 3 double Victoria Cross recipients were military doctors.

Keywords
History, Doctor, bravery, Heroism
Factors Associated with Fatality among Civilians in Southernmost Provinces of Thailand during 2004-2013

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Introduction
After a surge of violence in the insurgency in the southernmost provinces of Thailand since 2004, a large number of the people were injured or killed in that affected area.

Methodology
We analyzed the data obtained from a war-related injuries registry database of Pharmongkutklao College of Medicine Department of Military and Community Medicine during 2004 - 2013. Adjusted Odds Ratios were calculated using multiple logistic regression model to identify independent risk factors associated with fatalities.

Results
A total of 4,510 war-related injuries among civilians identified during 2004 – 2013 including 2289 (50.75%) deaths. Mean age of 39.28 years old; 46.16% were Islam; 21.86%, 44.26%, 33.88% were civil servants, agriculture workers and other occupations respectively. Case-fatality rates by type of occupation were; civil servants (53/986, 56.09%), agriculture workers (1110/1996, 55.61%), and other occupations (626/1528, 40.97%). Case-fatality rates by religion were; Buddhism (878/1873, 46.88%), Islam (1333/2476, 53.84%). The independent risk factors associated with fatalities included; living in Pattani province being a civil servant, primarily treated by community hospital, wounded at head, neck or chest, abdomen, multiple injury and injury from firearm.

Conclusion
The independent risk factors related to fatalities among injured civilians in the southern-most provinces of Thailand were location in Pattani, being a civil servant, primarily treated by community hospitals, wounded at head, neck or chest, abdomen, multiple injury and injury from firearm.

Keywords
War related injury, civilian, risk factors, southernmost province of Thailand

Military eye trauma – In Oman – a perspective

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Introduction
To report on ocular trauma related to military sector in Oman and discuss on preparedness required to deal with combat ocular injuries.

Methodology
Case presentation

Results
A 32 year old soldier working in the military sector in the Sultanate of Oman presented to the emergency eye clinic with h/o injury to his left eye of a few hours duration. He was cleaning the cannon – when he pulled at the metal string attached to the cannon, it gave way and struck his left eye. He was in excruciating pain with the metallic string hanging from his left cornea. An emergency surgery under general anesthesia was performed to remove the string from his cornea and primary suturing of the cornea was performed.

Conclusion
Management of combat ocular injuries varies from ocular injuries occurring in the civilians. Combat ocular injuries provide one of the most challenging situations not just for the Ophthalmologists, but for every provider and support personnel deployed to the combat theater, requiring great physical and mental strength, preparedness and understanding of their role in the echelons of care.

Keywords
military trauma, cornea, eye
Implementation of WHO Surgical Safety Checklist in Armed Forces Hospitals - Southern Region

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Introduction
The WHO Surgical Safety Checklist increases the safety of patients undergoing surgery. The growing body of evidence base to support its role in improving perioperative safety is increasing although its impact is likely to be directly related to the effectiveness of its implementation. We report our successful implementation strategy in a military referral hospital in KhamisMushait, Saudi Arabia.

Methodology
Planning, implementation and assessment took place in 2012. The planning phase, involved a team approach using key quality leaders, interested clinicians, and staff from various departments, to evaluate the current situation and plan appropriate Checklist utilization and implementation. Implementation in February 2012 was preceded by formal teachings and leadership support followed by step implementation. Monitoring was initiated using completed Checklist analysis one, three and six months. A continuous analysis and reporting of results to major stakeholders was carried on during the whole period of implementation.

Results
Checklist compliance rates were 22%, with an overall compliance rate approaching 52% at three months in some departments. A second round of discussions, meeting and training was launched and there was a increase in Checklist compliance over the period of the study to than 92% by the end month six. with continuous monitoring and the launch of a sustainability plan, staff satisfaction and enthusiasm increase with current compliance rate of almost 99.8% by early 2014.

Conclusion
We report a comprehensive implementation strategy for introducing the WHO Surgical Safety and we show that this approach can lead to high compliance rates, staff satisfaction and sustainable results.

Keywords
safety, WHO checklist implementation, surgical safety

A Review of Malaria Prevention and Control in War Areas

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Soldiers are confronted with a variety of vector-borne threats and diseases in war areas. Among all threats Malaria holds important place as major health problem in potent tropical areas. Malaria control in war areas has been considered to be one of the most desirous and challenging goals of different armies. According to WHO the Integrated Vector Management could be considered as a solution to improve the efficacy, cost-effectiveness, ecological soundness and sustainability of malaria control. This review suggests that the introduction of IVM, have important consequences for malaria control in war areas, but also indicate that this would require expert trained units. The aim of this review is to survey the literature, up to November 10st, 2014, regarding malaria prevention and control efficacy with impact on war areas and military bases located in high risk regions. We searched PubMed, Springer, Elsevier, ScienceDirect and Willy Online for relevant papers. As vectors, mosquito species Anopheles were considered as the main subject. We reviewed a total of 43 publications.

Key words: Malaria, Control, Treatment, War areas
Surgical Approaches to Treatment of Liver Injuries
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Introduction
The liver is most commonly injured solid organ following abdominal trauma, being the second most commonly injured in blunt injuries and the third most commonly injured in penetrating ones. Complex hepatic injuries are associated with high mortality rates. The purpose of this study was to evaluate and estimate the results diagnostic and therapeutic concepts of the surgical treatment of liver injuries.

Methodology
From 1995 to 2015, 130 patients with isolated or combined liver injuries were surgically treated in Gulhane Military Medical Academy Dept. Of General Surgery. In relation to degree of liver injury, this concept is based on Moore's 6 degree scale.

Results
The causes of liver injuries were penetrating trauma in 72 (55%) patients and blunt trauma in 58 (45%) of them. According to Moore's classification, Grade I injury 30%, Grade II 43%, Grade III 15%, Grade IV 6% and Grade V 6% were detected, respectively. Additional organ injuries were found in 65 (67%) patients. Right hepatectomy in 2 (2%) of patients, Left hepatectomy in 2 (2%), Resection and Debridement in 15 (11%), Primary Repair of Liver in 94 (72%) and Cholecystectomy and Primary Repair in 12 (9%), and Packing in 5 (4%) of them were performed as surgical treatment. Mortality rate was 13% for the entire series.

Conclusion
Majority of all deaths with liver injury in the preoperative and early postoperative period from shock, sepsis, multiple organ failure and transfusion related coagulopathies. The last decade, however, witnessed a number of major changes in the way complex hepatic injuries are managed.

Keywords
Liver injuries, surgical approaches, surgical treatment

Hyperbaric Oxygen Therapy as a New Treatment Modality in Wartime.

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Introduction
Everyone knows that oxygen is necessary for major processes of a living cell. 100 % oxygen is administered at higher atmospheric pressure in hyperbaric oxygen therapy (HBO). In this way, oxygen dissolves more and more in plasma and the tissue delivery will be enhanced. The question is: What is the fate of wartime injuries with HBO? Will the injuries be treated better than before?

Methodology
HBO is not well known in Iran and many Asian countries. This systematic review has been performed for updating necessary information about HBO, especially interesting effects regarding wartime injuries.

Results
HBO is considered to be safe. Rare complications have been reported. It has standard treatment protocols. Many disorders are treated with HBO nowadays. Approved indications have been declared by The Undersea and Hyperbaric Medical Society. Some other indications are considered for HBO in Russia and China.

Conclusion
Many animal studies have been done. Human researches are also frequent but in limited countries. It seems that HBO may be effective in wartime. Further investments should be considered hopefully to find the exact answer.

Keywords
Hyperbaric oxygen, Military, Injury.
Acoustic Trauma during Military Service

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Acoustic trauma is a frequent cause of sensorineural hearing loss in militaries due to direct injury of the inner ear by very loud noises. The goal of this work is to study the clinical, therapeutical and evolutive profiles of this disease.

We conducted a retrospective study about 64 cases of acoustic trauma over a period of 8 years (2006 - 2013), treated and followed at the ENT Department of the military hospital Tunis Tunisia.

All our patients were male with a mean age of 34 years. The cause of acoustic trauma was a firing of a gun near the ear in 48 cases, an explosion near the ear in 5 cases and a sudden exposure to loud noises near military planes in 11 Cases. All the patients complained of hearing loss with tinnitus. Audiometric exams found a sensorineural hearing loss with a hearing level average of 38 dB +/- 14 SD. The therapy consisted of systemic cortisteroids at the dosage of 1mg/kg/d associated in all the cases to peripheral vasodilators. Hyperbaric oxygenotherapy have been used for 25 patients.

The evolution was good in 52 patients (81%) with an improvement of the initial hearing level. The mean of hearing level after therapy was: 24 dB +/- 12 dB. Tinnitus persisted in 36 patients.

Acoustic trauma is a severe and frequent disease in military population unless an urgent and appropriate therapy. Hearing loss prevention is mandatory through the generalization of prevention educational programs and by wearing hearing protection such as earplugs or earmuffs.

Keywords: acoustic trauma, military, sensorineural hearing loss.

Auricular Blast Injury in Militaries

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Auricular barotraumas represent the anatomical and functional lesions of the ear caused by a difference in pressure. In military, blast induced barotraumas affect often the ear with variable lesions and symptoms. The purpose of this study was to describe the effects of blast exposure on hearing status.

We conducted a retrospective study about 16 cases of auricular blast injury over a period of 5 years (2009 - 2013), treated and followed at the ENT Department of the military hospital Tunis Tunisia.

All our patients were male with a mean age of 41 years. We found a history of chronic Eustachian tube dysfunction in 7 cases. The auricular blast lesions occur after bomb explosions in all the cases. The patients complaints were otalgia (46%), otorragia (37%), hearing loss (76%), tinnitus (83%), and vertigo (23%). The otoscopic examination found different degrees of barotraumatic otitis media with a perforation of the tympanic membrane in 6 cases. Audiometry found a conductive hearing loss in 7 cases and a mixed hearing loss in 4 cases.

The therapy consisted of analgesics in all the cases, antibiotics in cases of tympanic perforation and cortisteroids at the dosage of 1mg/kg/d in cases of severe tinnitus.

The therapy was good in 9 patients. A myringoplasty was performed in 3 cases. A sensorineural hearing loss associated to tinnitus was persistent in 4 cases.

A standardized therapy plan in case of acoustic barotraumas may limit the middle and inner ear damages and shorten the recovery period.

Keywords: blast injuries, ear, military.
Prehospital Management of Gunshot Patients at Major Trauma Care Centers: Exploring the Gaps in Patients Care

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Background
Prehospital management of gunshot-wounded (GW) patients influences injury-induced morbidity and mortality.

Objectives
To evaluate prehospital management to GW patients emphasizing the protocol of patient transfer to appropriate centers.

Patients and Methods
This prospective study, included all GW patients referred to four major, level-I hospitals in Mashhad, Iran. We evaluated demographic data, triage, transport vehicles of patients, hospitalization time and the outcome.

Results
There were 66 GW patients. The most affected body parts were extremities (60.6%, n=40); 59% of cases (n=39) were transferred to the hospitals with vehicles other than an ambulance. Furthermore, 77.3% of patients came to the hospitals directly from the site of event, and 22.7% of patients were referred from other medical centers. EMS action intervals from dispatchers to scene departure was not significantly different from established standards; however, arrival to hospital took longer than optimal standards. Additionally, time spent at emergency wards to stabilize vital signs was significantly less in patients who were transported by EMS ambulances (P=0.01), but not with private ambulances (P=0.47). However, ambulance pre-hospital care was not associated with a shorter hospital stay. Injury Severity was the only determinant of hospital stay duration (β=0.36, P=0.01) in multivariate analysis.

Conclusion
GW was more frequent in extremities and the most patients were directly transferred from the accident site. EMS (but not private) ambulance transport improved patients’ emergency care and standard time intervals were achieved by EMS; however more than a half of the cases were transferred by vehicles other than an ambulance. Nevertheless, ambulance transportation (either by EMS or by private ambulance) was not associated with a shorter hospital stay. This showed that upgrade of ambulance equipment and training of private ambulance personnel may be needed.

Keywords
Wounds, Gunshot; Triage; Emergency Medical Services; Wounds and Injuries; Iran

Temporary Hospitals Site Selection in Cities, In Military Threatening And Terroristic Attacks Circumstances

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Speeding in remedial reliefs is one of the main concerns in critical situations. The use of field hospitals for this purpose is so common. site selection in crucial circumstances is one of the most important factors in improving the function of these hospitals and speeding in reliefs. In this research with the aim of selection of the most suitable urban sites in order to settle temporary hospitals in military threatening situations and terroristic attacks, the related criterions have been extracted. By using these criterions through overlapping by GIS method, site selection was accomplished. At the beginning, the criterions was suggested by library studies and surveying worldwide case studies and then by use of Delphi method (questionnaire and panel of experts), those criterions became complete and accurate. Afterwards the accurate criterions weighted by AHP method in Expert Choice software according to their importance. The suggested criterions resulted in this project has been presented in two main categories. The first category consists of general criterions for site selection of field hospital in cities and can be applied in all kind of crises. These criterions include: appropriate access, proper distance from existing remedial centers, proximity to population centers, plots size, ground slope and…. the second category consists of specific criterions in military threatening circumstances considered as complementary for the above criterions. These criterions include: distance from important buildings (function and height), distance from
dangerous functions and proximity to fire stations. In related to site selection of remedial activities in military threatening situations, two different activities should be considered. The first activity includes remedial emergency activities that are necessary to be settled near the vulnerable and attacked districts in bombing in order to do the first emergency treatments on wounded persons and then sent out them to the field hospitals or long term remedial centers. The second activity includes the secondary remedial treatments and hospitalizations that can be done in long term field hospitals and it is necessary to settle these centers as far as possible from the vulnerable districts in war. In this project a district of a Metropolis was studied and finally the maps consist of priorities of suitable plots presented. The suggested method of this research and criterions and their weights can be applied in every city for site selection of field hospitals. It is suggested to apply this method for maintaining and keeping of proper plots in cities in order to use them in critical situations for remedial activities.

Key words
Site selection, field hospital, military threats, crises management

Design the Model of Caring in the Emergency Department of Selective Military Hospitals

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Background and Aim
Emergency department is the Forehead Hospital. Regular rotation matters in this unit could save many human lives. One of the most important sectors in services is caring. Care is complex and multifaceted concept that has different meanings in different situations and conditions and requires a specific pattern. Studies have shown that a specific model (for emergency ward) and appropriate institutional and cultural conditions of society Design has not been presented. This study was conducted to design the model of care in emergency patients.

Materials and Methods
This study is an integrated approach to design a model of care. At one stage of a qualitative study of the theory to explain the process of care designed by caregivers in the emergency department and then secondly, based on the findings of the first stage approach using the theory of Walker and Avant (2005) to design an appropriate model of care in the emergency department was attempted. Twenty-five of the participants based on purposeful and theoretical sampling from the nurses, patients and nursing manager were selected. Participants, Unstructured individual a total of 43 times were interviewed. Unstructured individual interviews with 30 to 100 minutes duration and 1-3 times and on the several times observation, is used for data collection. Information collected during 2 years 2009 and 2010 in two teaching hospitals in Tehran, until data were saturated. Data with using the constant comparative analysis principle and according to Strauss and Corbin method on three stages, including open coding, axial and selective coding were analyzed. The second phase study, Walker and Avant's method involves three steps include: The central concept (taken from the central variable of the first stage) and the conceptual framework (the central variables and concepts Meta paradigm Nursing), A review of the literature to explain the relationship between concepts, and strategies to achieve its favorable goals And organize them in an integrated network with characteristics of a clinical model and has been prescribed.

Findings
Constant comparative analysis of the data showed that, Patients and their relatives’ relief of pain and suffering caused by the disease hailed as a major concern. Also nurses were concerned that the work done accurately, quickly and comprehensively. This concern of arriving in the emergency in all participants is evident in text fields and event. Stabilizing has been introduced as a core variable. So that nurses with strategies such as calm ward, giving sufficient information to patients and … cared actively of their patients. But influence of confounding factors nurses used a variety of active strategies as a contrast, of other range of active care strategy. So that impressed by the crowding, stress and disharmony perofre choose some things and avoid doing some of things and were ignorance and neglect of patients meet basic needs. And do not pay attention to them. Patients and their relatives to resolve their concerns the elimination of suffering different strategies were used. Range of strategies that patients and relatives were used is from passive to active. Therefore, strategies Such as beating of the nurses and doctors, protest and conflict, aggression, escape forward, insisting on care, appeal, done part of the work and cooperation have used. These strategies led to fatigue, burnout, nurses leaving the job, rush to care, increased stress, Loss of quality of care;
reduce speed, accuracy and focus and dissatisfaction in the nurses and the patients. In the next section of the study that is a favorable model for patient care in emergency ward, the main variables in the study background revealed, using a theory of development strategies (synthesis theory) to design a prescriptive theory or model, with using strategies of clinical governance to improve and develop the theory of stability was to achieve the favorable results.

Conclusion
Since the theory or model of the final was designed to base on the discovery and understanding of facts, functions and the underlying factors on caring is real. On one side strength and fitness with field is more and understanding of them by the main stakeholders include nurses and patients are comfortable and further. Other hand expected an easier, faster and better be used by participants and brokers in the emergency department. In further due to favorable resulted treatment outcomes and the patient and nurses satisfaction, and reduce crowded and stress, efficient management and increased speed, accuracy and comprehensiveness in the emergency department. The expected and claim the need to design appropriate intervention studies in the field.

Keywords
nursing care, emergency ward, nursing model, grounded theory

Evaluation of prehospital emergency actions taken in police missions Injuried referred to the Police Hospital

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Background
Today, military medicine focuses on specialized approaches, ambulatory, resuscitation, pre-hospital stabilization of critically injured patients and support of pre-hospital policies. The purpose of this study is to assess the prehospital emergency actions taken in patients injured during NAJA missions and are referred to emergency ward of police hospital.

Materials and Methods
All military injured patients who were hospitalized from March 2011 to August 2012 in emergency ward of Samen-al-aemeh NAJA hospital of Mashhad, were included in this descriptive-cross sectional study. Data collection was performed using checklist filled by medical documents of patients. Collected data were analyzed by SPSS software version 11.5.

Results
Total of 84 cases were included in this study (mean age: 25.7±6.9 years). The mean duration between the injury and hospital arrival was minimum 3 and maximum 975 minutes. 59.5% of patient transports were performed by motor vehicle and medical team were present. 81% of them were in desired health condition. Gunshot was responsible for 45.2% of injuries. 57.1% of cases had received no pre-hospital care. Rate of pre-hospital cares was 55.6% in borderline areas and 44.8% for traumatic injuries.

Conclusion
Updated knowledge about medical care for war injuries is critical for suitable treatment and decrease in disability and mortality rate of these patients. So, considering the deficiencies in present prehospital policies, educations with the aim of improving the prehospital care is suggested. Further studies on present conditions compared to world standards can be helpful to achieve optimal prehospital care.

Keywords
Prehospital medicine, emergency, injury, trauma
Designing and Operating Clean Rooms for Mobile Field Hospitals

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Introduction
Clean rooms are defined as the controlled air environment that generate and maintain air characterized by being free of microbes and particles that could carry microbes. Clean rooms play an important role in infection control and could accelerate recovery. These rooms are used for operations, isolation, burn units and for preparing sterile products. There are several standards for designing and operating such rooms. However, fulfilling and maintaining these standards is a challenge process. This is especially true in case of mobile hospitals that operate in disasters and wars.

Methodology
A clean room was designed to have the advantage of being mobile, easy to construct, comfortable for staff and patients, relatively less costly and maintaining the required high standards. These standards include production of filtered air (ISO 5 and 7), isolation of contaminants and maintaining clean airflow. The room is equipped with sensors to provide indicators that meet the required standards of clean rooms and gives alarms for any deviation.

Conclusion
In conclusion, clean rooms are one of the important factors in providing patient care that maintain patient safety and improve the quality of the care provided.

Results
The designed clean room met the quality standards which include the standards particle size allowed to enter the room which must be ISO 5, 7 or 8 according to the purpose of the room. It has the ability to generate an amount of quality air through filters, maintain positive pressure and being easy to be cleaned, sterilized and has no potential source of infection.

Keywords
Clean rooms, Operation room, Sterile products, Isolations, Burn units

Mobile Field Hospitals Innovations

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Introduction
In complex disaster, field hospitals have been used with notable success. Innovations should lead mobile hospitals to be self-contained, self-efficient health care facility, capable of rapid deployment and expansion or contraction to meet immediate emergency requirements for a specified period of time.

Methodology
Research using internet browser about published materials to describe different innovation domains related to modern mobile field hospitals. Materials were about evidence based articles, published after action reviews, published military books, published field manuals, and expert census reports.

Conclusion
Mobile hospitals innovations are essence for preparedness as well as speedy and effective medical response to an event.

Results
1. Modular concept application of mobile field hospital prior to deployment. 2. Combination of containers and modern tents with customized configurations can provide high level of onsite medical care. 3. Mobile hospitals can provide, on top of surgical and medical support, piped medical gas, HVAC, waste management, telemedicine, sanitary, kitchen, laundry, and staff accommodation facility. 4. Proper Planning can overcome potential operational constraints. 5. Technical training of assigned team is very important on top of medical and tactical skills. 6. Disasters are not the only use for Mobile Hospitals.

Keywords
Military Field Hospital, humanitarian, disaster, Military Training
Ultrasound Guided Arthrography of Shoulder: An Approach from Rotator Interval

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Objective
We try to describe a technique of shoulder joint injection under ultrasound guidance from rotator interval space. We used a linear transducer and the injections were performed by radiologists.

Materials and method:
Accuracy of the intra-articular puncture was assessed and incidence of complications was evaluated in 35 consecutive patients submitted to joint puncture for shoulder MR arthrography. Also spectrum of injuries of shoulder joint in young military soldiers was estimated.

Results
Puncture was accomplished successfully in all cases, of which 86% in first attempt, and 14% with two. The injections well tolerated by nearly all patients. No relevant serious complications were reported after the procedure.

Conclusion
This study has shown that puncture of the gleno-humeral joint under ultrasound guidance at the rotator interval space and using linear transducer is easy and quick. The rate of complication is very low and this technique is easy to use even when performed by radiologists with no experience in arthrographic procedures.

Effects of the Total Quality Management Implication on Patient Satisfaction in Emergency Department

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Objective
To evaluate the effects of Total Quality Management (TQM) implication on patients’ satisfaction in emergency ward.

Design
Patients’ satisfaction was evaluated before and after TQM-based quality improvement process in emergency department by using a satisfaction survey questionnaire.

Setting
Besat General Hospital, Tehran, Iran.

Participants
Patients who were admitted to the Emergency ward of Besat General Hospital in two periods of September-December 2009 and April-July 2011.

Interventions
According to the patient satisfaction questionnaire results and feedback, and based on TQM principles all the possible interventions were implicated after discussions with responsible teams and the managing staff during the 15 months of the satisfaction evaluation interval.

Results
The satisfaction level for physicians, nurses, transporting and service personnel, and imaging staff has increased by 12.7%, 21.8%, 17.0%, and 14.1%, respectively (P<0.001 for all). The overall satisfaction increased from 55.4% to 71.3% after the TQM application (P<0.001).

Conclusion
Considering the low satisfaction level among Iranian patients about the emergency and healthcare services we suggest that TQM can be a very effective solution in improving the health care service quality and increasing patients’ satisfaction.

Key Words: Total Quality Management, Organization, Health Care, Satisfaction, Teamwork
The Effect of Hyperbaric Oxygen on The Healing of Rat’s Flexor muscle Injury

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Introduction
The Disability and deformity will occurs when the healing of muscle injury is not optimal. Many adjuvant therapies was used to achieve an optimal healing process. Hyperbaric Oxygen (HBO) was one of the alternative therapy to improve muscle healing but until now remain debated

Methodology
Forty eight Rattusnorvergicus which have been underwent “clean cut” injury and sutured on the flexor muscle of right lower leg. The forty eight rats then divided in four group. First and third Group were control groups which did not recieve HBO for a week and two weeks. Second and fourth group received HBO for a week and two weeks. Every group then underwent histopathological analysis for the Granulation ratio and the Fibroblast proliferation thickness in the healing muscle area

Results
The Granulation ratio were 24,525 ± 11,208 for 1st group and 42,991 ± 20,261 for 2nd group and the fibroblast proliferation thickness were 22,483 ± 11.626 for 3rd group and 73.775 ± 18.692 for 4th group. The 2nd group was significantly higher than the 1st ones for granulation ratio and The Fibroblast proliferation thickness in 4 th group was significantly higher than 3 rd group.

Conclusion
This experimental study shows that HBO can promote granulation tissue and the fibroblast proliferation tickness in muscle healing.

Keywords
hyperbaric oxygen, muscle healing, fibroblas proliferation

Blast Injury of the Hand : Case Series in Sardjito General Hospital

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Blast injury of the hand could happen in wartime and now in terrorist attacks. It occurs from gunshot or gunpowder based bombs during military campaign and has similar pathomechanism with firecrackers in non military explosion related accidents. Low incidence in time of peace made experience base expertise rarely available. Purpose of this study describes the common pattern, patomechanics, characteristics and treatment of blast injury to the hand in our institution.

METHOD: Observational pilot study conducted on consecutive series of patients in Sardjito General Hospital. The data of blast injury of the hand patients from July 2013 to July 2014 were taken based on medical record, clinical picture, X-ray, treatment and functional outcome. The data was analysed using independent t-test and fisher exact test.

RESULT: There were 15 cases of blast injury of the hand during the period of the study. Firecracker was found to be the sole cause of the injury. All patients were male with 66% involving dominant hand and mean of age was 19.4 years which 8 (53.5%) of them sustained severe injury and 4 patients had tendon rupture. The most common injured part was the radial digits (60%) as shown by amputated wound of the thumb and open fracture of index and middle finger followed with rupture of the thenar and adductor compartments. The severity of the injury was not different when correlated to age, time of injury, mechanism of injury, and the affected side (p>0.05).

CONCLUSION: Low explosive could make devastating injury to the hand. The higher incidence was on dominant hand in the radial digits. Severity of the hand damage did not correlate with patient characteristic and pathomechanic.
MSD Trauma Care Improvement Program: The experience of Saudi Military Medical Services

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Introduction
Numerous studies have documented the impact of trauma centre level, verification, and resources availability on outcomes among trauma patients. Optimal care of the injured patient requires the delivery of appropriate, definitive care shortly after injury. MSD trauma committees have defined optimal resources to meet the goal of rapid, appropriate care in trauma centres and prepared a comprehensive plan to ensure optimum care.

Methodology
They have introduced programs (evolution, implementation, guideline lines, verification and suitability) to audit all MSD hospitals trauma centre performance based on international guidelines.

Results
Phase one and two implementation has started and we are currently preparing for phase three. The lessons learned from this initiative still to come but we do have something to share.

Conclusion
The relative importance of performance guidelines and trauma centre audit as integral steps toward improved outcomes following injury are important. Current MSD trauma improvement program is currently ongoing and more phases to come.

Keywords
Trauma, military medicine, trauma centres, Saudi Arabia

Evaluation of effectiveness on Trauma Center Development and Mass Casualties Incident Management Course

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Introduction
Nowadays, disaster rates have increased in Thailand resulting in high mortality and permanent disability. The correct understanding about disaster, proper preparation, conduct a good incident commanding system as well as response plan and regular drill can make the healthcare workers ready to face the disasters. Phramongkutklao Hospital, with collaboration with Rambam Health Care Campus had conducted The Trauma Center Development and Mass Casualties Incident Management Course (TCDMCI course) for armed forces participants who are service as healthcare workers in order to develop their own response plan.

Methodology
This study was done by testing participants before and after succeeding the TCDMCI course. Data were analyzed to evaluate the effectiveness of training by using the paired T-Test.

Results
The score of participants ability on disaster management and incident commanding improved significantly (P< 0.001) from 14 to 17 While the knowledge about Weapon of Mass destruction was evaluated, a score differed significantly. It can be explained that participants still had no deeply understanding in WMD and personal protection and resulting a greatly significant (P <0.001) on before and after training scores (3 to 4).

Conclusion
The Trauma Center Development and Mass Casualties Incident Management Course (TCDMCI) Course can increase understanding about disaster as well as improve ability of participants on creating response plan significantly. Most participants still misunderstand about hazardous personal protection that need more intervention such as specification drills.

Keywords
Mass Casualties, Incident Command, training course
Major Abdominal Organ Injuries. The Role of Radiology !!

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Introduction
Major abdominal organ injury can result in a fatal outcome scenario if not diagnosed early, the absence of an obvious external injuries may result in some difficulties in early detection of this sort of deep internal injuries, so the radiology role is very essential in early diagnosis of this condition will result in decrease the mortality and morbidity of this sort of injuries.

Methodology
389 patients were included in this study between January 2009 till August 2014 at King Hussein Medical Center of the Jordanian Royal Medical Services, Amman – Jordan. There were 251 males (65%) and 138 females (35%), with age range of 15-72 years (mean age, 28.5 years). The Radiology investigations were reviewed by the same radiologist for the presence of major abdominal organ injuries and other associated injuries.

Results
Radiology showed no intra-abdominal injury in (74%), solid organ injury was noted in only (10%), free fluid (12%), and suspected bowel or mesenteric injury in (4%). In the major abdominal organ injuries, the percent of the organ involved was the spleen (50%), liver (20%), kidney (10%), and multiple injuries (20%).

Conclusion
Radiology is playing an essential role in diagnosing the abdominal organ injuries and can determine the subdivisions of the injuries. CT Scan is the most important method of radiological investigation, however, Ultrasound can be a quick method of investigation in cases with low level of suspension.

Keywords
Abdominal Organ Injuries, radiology, CT Scan

A Study of Incidence and Risk Factors of Road Traffic Accident among Teenagers in Thai Rural Community

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Introduction
Road traffic accidents (RTAs) constitute a major global public health problem. Worldwide, occurred in Thailand rank as the third leading cause of death. Since there is no research about RTAs in rural community, this research aims to assess the incidence and risk factors of RTAs among Teenagers in Thai Rural community.

Methodology
We conducted retrospective cohort study and total survey was used. For quantitative study, the data were collected by questionnaires filled in by 730 students from three different schools in Chachoengsao and Sakaeo. For qualitative study, teachers, parents, public health officers, and police officers were asked to attend in-depth interview and focus-group discussion.

Results
According to the questionnaires, 417 episodes of RTA were reported for 270 children of which 91.1% were motorized two-wheeled vehicle user, 40.7% were non-hospital care and overturning of the vehicle claimed 50%. 44.3% of RTAs occurred during the day. The most influencing risk factors were students in the 8th grade (1.53 times higher than in 7th grade), drunk driving (1.56 times higher than in non-drunken driving), and mobile phone use while driving/riding (1.40 times higher than those without mobile phone use). Referring to the interview and discussion, the host factor was the most influencing and the severity of injury was not as much for a person receiving hospital care. Prevention strategies were providing road safety education.

Conclusion
An increase in the popularity of motorcycles among teenagers and lack of following road traffic controls lead to an increase of RTAs.

Keywords
Road traffic accident, incidence, risk factor, teenager, rural community
Applying Machine-learning Techniques to Predict Delayed Pneumothorax and Hemothorax following Blunt Thoracic Trauma

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Delayed pneumothorax and hemothorax are among mortal possible complications of blunt thoracic trauma, particularly in military operations. Current Medical guidelines suggests close watch follow-up with 6 hours interval chest X-ray, which might not be easily available in the battle field. Then, finding reliable criteria for timely diagnosis of high-risk patients had been an area of interest to researchers.

We applied a dataset consisting of 616 patients while 17 ones experienced the delayed complications. Using classification techniques we tried to find a predictive rule to recognize high risk subjects, based on admission-time recorded clinical and radiological variables. We propose a model based on Logistic Regression with following screening accuracy: 100 (95% CI 82-100) Sensitivity, 81 (95% CI 77-84) Specificity, 49 (95% CI 33-64) PPV, and 100 (95% CI 99-100) NPV.

This enables potential elimination of 81% of negative subjects from unnecessary close watch and serial chest X-rays for the injured armed forces in the battlefields where limited emergency care specialists and facilities are available.

Keywords: Blunt thoracic trauma, Delayed pneumothorax, Delayed hemothorax, Linear Regression, Logistic Regression, Artificial Neural Network

Military Trauma System: Why badly needed?

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(1) UAE Armed Forces

Introduction
The magnitude of traumatic injury as a public health problem is enormous. In terms of years of productive life lost, prolonged or permanent disability and cost, it has been long recognized as one of the most important threat to public health and safety internationally. With the increasing evidence of the importance of Trauma Systems in reducing mortality and morbidity of trauma victims; several civilian models have been implemented successfully all over the world. On the other hand, this concept has not made its way to most of Military Medical Systems in the region. For a trauma system to make a difference, it requires a group of related injury oriented facilities, personnel, and organizational entities operating in an organized, coordinated manner, typically within a defined area. This covers a spectrum of activities including injury prevention; prehospital care; trauma registry; rehabilitation and many others key components.

Methodology
Literature review of the topic and presenting speaker's experience from Abu Dhabi Trauma System Initiative, UAE, a novel project in the Middle East

Results
This lecture will address the following aspects: - Present brief overview on the history of civilian and military Trauma Systems development - Literature review on the concept. -Highlight key components of military trauma systems - Present recommended “action plan” on how to start a military trauma system.

Conclusion
The presentation will give a sold overview of trauma systems and how to apply it in the military

Keywords
trauma system, Military trauma system, Injuries
Complications of Gunshot Wounds to The Chest Surgery

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Introduction
Purpose. Error analysis of gunshot wounds to the chest surgery and their impact on the occurrence of complications.

Methodology
Material and methods. We treated 143 patients with open chest injuries, accounting for 27.2% of all injuries of the thorax. Of these, 99 (69.2%) injuries were inflicted firearm in 44 (30.8%) - piercing and cutting items. Given the peculiarities of traumatic disease in gunshot wounds chest, we found it necessary to dwell on them. In 72 (72.7%) had suffered gunshot wounds in 27 (27.3%) - shrapnel wounds. Through wounds were diagnosed in 54 (54.6 %), penetrating injuries with injuries of the chest - in 85 (85.9%). Schematic diagram of the treatment of the wounded in the chest included: pain relief, early and full drainage of the pleural cavity, sealing and stabilizing the chest wall; measures aimed at smoothing the early light, elimination of bronchial obstruction and airway support. In 9 (9.1%) injured performed - VATS surgery, thoracotomy at different times after injury in 11 (11.1%) patients with gunshot wounds chest.

Results
Results. In the postoperative period 5 (5.1%) of the gunshot wounds chest developed empyema, in 9 (9.1%) - pneumonia, in 9 (9.1%) - festering wounds. Died 3 patients (3.0%).

Conclusion
Conclusions. In the analysis of errors in the diagnosis and treatment of gunshot wounds chest should distinguish between organizational and tactical, technical errors and defects of post-operative treatment of the victims.

Keywords
Complications, Surgery, Gunshot

Epidemiological, Clinical and Therapeutic Profile of Mandibular Fractures

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Introduction
Due to its advanced position, the mandible is a real bumper for the face and is often the first target reached by a wounding agent. It however presents many areas of weakness that expose it to fractures.

Methodology
This is a retrospective study of 86 cases of mandibular fracture. The following data were collected from patients’ files: age, gender, circumstances of occurrence, type of fracture, therapeutic methods and postoperative complications. Data recording was done using Excel and statistical analysis was performed using SPSS software.

Results
Young people aged 25 to 34 are most affected (36%), as well as the male gender (75.6%). Road traffic casualties represent predominantly 53.35% of occurrences. The mandible horizontal branch (44.2%) and symphysis (19%) are the most affected parts. Orthopedic treatment was performed for all the patients, associated with medical treatment using antibiotic, antiseptic and anti-inflammatory products. Complications occurred in 9.3% of cases, essentially by infection.

Conclusion
Mandibular fractures represent an important part of maxillo-facial injuries and are one of the main reasons for emergency consultation in odontostomatology. They are most common in young male subjects involved in road accidents.

Keywords
Mandibular fractures, orthopedic treatment, Military Hospital of Kinshasa
Our Nuss Method Experience in Young Adult Patients with PectusExcavatum

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Introduction
In this study, the results of the Nuss procedure as a surgical repair in young adult patients with pectusexcavatum were evaluated.

Methodology
Twenty-three male patients (mean age: 21.7; range from 21 to 26) operated with Nuss procedure in our clinic between March 2010 and December 2013 were evaluated retrospectively. The clinical data, the features and complications of the surgery were recorded. A mean of 28.7 months (range: 3-45 months) after the operation a single stage questionnaire developed by Krasopoulos et al. were applied to all cases. Overall satisfaction of patients after the Nuss procedure was evaluated.

Results
While the negative effects of the chest shape to social activities were 95.7% preoperatively, this value decreased to 30% after surgery. During staying in the hospital 66.6% of cases suffered from moderate or severe pain. The pain of 83.3% cases was alleviated during discharging from the hospital and disappeared at the end of the third month postoperatively in 77.7% of cases. The mean self confidence was 5.2 (range: 1-10) preoperatively and this value rise to 7.4 (3-10) postoperatively (p<0.05). The 88.8% of cases expressed that they were highly satisfied or satisfied with the results. Different complications (as bar shift, pneumothorax, pleural effusion, persistent pain or wound problems) were seen in 14 (77.7%) patients,

Conclusion
As a result, considering the complication and satisfaction rate, we think that the Nuss procedure should be the preferred method and can be safely used in young adult patients.

Keywords
Nuss method, Pectusexcavatum, Congenital chest deformity
Disaster Management: Are We Ready to Play Role as Dental Professionals?
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Introduction
Mass casualty situations can arise unexpectedly anywhere, anytime as evidenced by recent natural disasters, the potential for terrorism and weapon of mass destruction events occurring within the region of the United States of Indonesia and around the globe

Methodology
Descriptive Study

Results
Those disasters are the real dangers staring mankind in the face. Dentists are not perceived as much of help in case of any disaster event. Dentists have the clinical skills and medical knowledge that are invaluable assets in mass casualty event.

Conclusion
Dentists can be given the opportunity to become more effective responders to natural disasters and other catastrophic events. Dentistry has valuable assets, both in personnel and facilities, to bring to the initial response to a mass casualty event when the local traditional medical system is overwhelmed. Inculcating disaster training in the undergraduate course will better prepare the dentist for any surge event. This calls for ever preparedness on the part of the health care workers. The present article explores the various duties which dental professionals can play in a major public health disaster response.

Keywords
dentists, disaster, response

Military Medicine in Disasters: Where do we stand?
Dr. Saleh Fares Al Ali(1)
(1) UAE Armed Forces

Introduction
Over the last few decades, military medical teams have been increasingly deployed around the globe to conduct a broad spectrum of missions, including disaster situations. Furthermore, military medical history was enriched by the vast experiences in disaster and crisis management throughout the years; which made it imperative for military medical professionals to be experts on, not only how to provide medical assistance in such situations, but how to be the leaders in this rapidly growing field.

Methodology
Literature review and speakers experience

Results
This lecture will address the following aspects: - Present brief history on military medicine development in the field of Disaster Medicine. - Give overview of key components of Disaster Medicine. - Present key military medical contributions to this developing field. - Highlight common challenges and opportunities identified. - Give case studies from the recent disasters and lessons learned.

Conclusion
The presentation will touch on important aspects of Disaster Medicine in the Military

Keywords
disaster medicine, military medicine, preparedness
An Assessment of the Strengths and Weaknesses of Crisis Management in the Police Hospital from Administrators’ Point of View

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Background
Managing and reduction of disaster risk in the health care system has always been challenging. For security reasons, police hospitals play an essential role in these situations. The aim of this study is to determine strengths and weaknesses of crisis management in the police hospital.

Materials and Methods
This descriptive case study included a survey of 70 executives, staffs, supervisors, administrators and members of crises and disasters committee done in one of the police hospitals in which a maneuver had been performed. Data were collected using Disaster Management Questionnaire, consist of 36 items in three areas: before the crisis (green status), during the crisis (red status) and after the crisis (yellow status). Data were analyzed using SPSS software version 11.5.

Results
Results indicated that, from the perspective of managers, the highest and lowest average scores were in the post-crisis period (3.5 ± 0.75) and before the crisis (3.18±0.72), respectively. In green status “quick and timely response of crisis management team” had the highest score and “observation and analysis of similar crises” and “flexibility of organization in times of crisis” had lowest scores. In red status highest and lowest scores had been given to “no conflict between members” and “lack of correct predictions and causing damages” respectively. In yellow status, “review the crisis management plan” had the highest and “the activation of knowledge management system and organizational learning” had the lowest scores.

Conclusion
Effective crisis management is composed of crisis management flexible planning, coordinating outside and inside of organization, organizing the forces and resources, good training and educating, and performing periodic maneuvers in hospitals. The best way to stabilize ideal conditions and strengthen weaknesses is to identify defects based on a similar studies of crises, eliminating essential defects and reassess the organization readiness in health centers.

Keywords: weaknesses, strengths, crisis management, police, hospital

Effect of Radiation Injured Management Training by Lecture and Web-based Methods on Cognitive Learning Levels of Nursing Students

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Backgrounds and Aims
With the expansion of information technology and penetrating remote media to the depth of society, education tools and methods have changed in a way that development of technology highlights using newer devices to communicate knowledge. Therefore, this study was conducted to comparatively investigate the effect of two methods of teaching management of radiation injured by lecture and web-based methods on cognitive learning levels of nursing students.

Methods
This clinical trial was carried out on 60 nursing students of two schools of military nursing in Tehran chosen based on purposive sampling in 2014. Samples were divided into two thirty-member groups and were imposed to lecture and web-based teaching. The effect of training was measured on three levels of knowledge, Comprehension and application before, immediately after training and 4 weeks later.

The resulting data were analyzed by SPSS21 software, using repeated measures ANOVA test and independent T-test.
Results
Mean and standard deviation of scores in all learning levels (knowledge, comprehension and application) in the web-based group before, immediately after and 4 weeks after training were respectively 7.83±2.561, 18.57±3.308 and 10.40±2.568 (p<0.001) and were 7.13±2.649, 17.23±3.370 and 12.30±3.395 in the lecture group. No significant difference was observed between groups in post-test. In the test stage, immediately after training, mean of scores in the web-based group had a greater increase but no significant difference was observed (p=0.12). The retention stage (4 weeks after training), lecture-based method proved to be effective (p=0.01).

Conclusion
Despite the fact that in posttest stage, web-based training had no significant differences with lecture-based training, but according to higher scores in the web-based group and time saving, web-based method can be used instead of lecture one in some courses. On the other hand, according to the impact of lecture-based training in retention stage, if desirable conditions in terms of time and space are met and training tools are provided, it is suggested modern training methods and lecture be simultaneously used in order to enhance different levels of learning different among students.

Keywords
Radiation injured management – Training – Lecture (based) Training, web-based Training - Levels of learning

Application of Molar Band with Service Number as Ante Mortem Identification Devices

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Introduction
This study was to show how molar band applied to maxilla or mandible molar tooth to identified as ante mortem data collecting all troops with high risk activity, furthermore, molar band was not as functional appliances.

Methodology
The method to applied separator rubber for 3 day, applied molar band to maxilla or mandible molar is used. Before applied, identification number or service number of troops to molar band body is printed. The molar band band that used must be resist to saliva activity, troop activity, boom blasting, disaster, high temperature is required.

Results
The discussion was applying of molar band to maxilla or mandible would not disturbed or brothered all troop activity during tour of duty or high risk activity.

Conclusion
The conclusion was applied of molar band with service number was helpfull to collect or suported the troops as ante mortem data.

Keywords
Molar band, service number, ante mortem

Role of DVI Procedure of Odontology Forensic of Military Operations in the Case of Sukhoi Super Jet 100 Crashed

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Introduction
Forensic Dentistry closely role in the disclosure of criminal cases, natural disasters and medicolegal. On May 9, 2012, Sukhoi Super Jet 100 (SSJ-100) that was doing joyflight reported missing and is expected to fall in the vicinity of Mount Salak, Bogor by watchtowers Halim Perdana Kusuma Airport, Jakarta at 14:25 o’clock pm. Indonesian DVI team led by the Indonesian DVI komandan immediately move to implement the DVI operation by deploying sumber human and military cooperation with the Ministry of Health and other related institutions to form a team of Crime Scene, antemortem, Postmortem and Reconciliation in accordance with the standards of Interpol. This operation is expected to encounter many difficulties given the enormity of the collision of the aircraft with Salak mountain at a very high speed, the condition of the victims were crushed and partially burned require a long process of identification. Health Team of the military
consists of 4 people consisting of three branches, they have to have a DVI qualification Intermediate level so it is very helpful in the process of identification in the field. Identification of Victims of SSJ-100 takes 14 days, where the results of the identification process as much as five to 45 victims identified through dental victim and the rest through DNA testing.

**Keywords**

ROLE OF DVI PROCEDURE OF ODONTOLOGY FORENSIC OF MILITARY OPERATIONS IN THE CASE OF SUKHOI SUPER JET 100 CRASHED, dvi procedure, odontology forensic

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**Knowledge and Attitude of Military Forces toward First-aid Management of Dental Trauma in Iran**

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**Background and Aim**

According to the physical strains in the military forces, dental traumas are common among combatants and first aid management of the injured force is of high importance. The aim of the present study was to evaluate the knowledge and attitude of military forces regarding first aid management of dental traumas.

**Materials and Methods**

In this cross-sectional study, knowledge and attitude of 125 forces toward management of dental traumas was evaluated using a questionnaire (Cronbach’s alpha coefficient of 0.81 in knowledge and 0.89 in attitude section). To analyze data, parametric analysis including t-test and Pearson correlation tests were performed with the confidence interval of 95%.

**Results**

112 (89.6%) completed questionnaires were collected. The mean age of participants was 35.27 ± 6.78 years old. 68 (60.7%) of participants were officer. Among participants, 76 (67.8%) and 30 (26.8%) had participated in general and dental trauma first aid management courses, respectively. 86 (76.8%) forces had witnessed a dental trauma. The attitude of officers and who had participated in dental trauma first aid management courses was significantly higher (P-value < 0.05). In addition, participating in dental trauma first aid management course had significant effect on the knowledge level (P-value < 0.05). Moreover, Positive and significant correlation was found between attitude and knowledge (r = 0.617, P-value = 0.001).

**Conclusion**

While the number of military forces witnessing dental traumas during their service was high, their knowledge and attitude toward first management of these traumas was insufficient.

**Keywords**

Knowledge, Attitude, Military Force, Dental Trauma, First-aid Management.

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**Preparing for Health Disasters: Sustainable Capacity-Building through Civil-Military Collaboration**

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**Introduction**

Ebola has demonstrated how whole-of-government, all-hazards planning is the most effective approach to preparing for health emergencies. The Department of Defense has used this approach successfully over the past 6 years to enhance sustainable capacity-building in disaster risk management through long-term planning at the country, regional and international level.

**Methodology**

This program works with relevant government ministries including the military to enhance disaster preparedness and response. Partner nations conduct a comprehensive evaluation of their existing disaster management capabilities,
design a multi-year disaster management strategic work plan, then prioritize needs and coordinate donor support.

**Results**
Ten countries have developed national pandemic influenza preparedness and response plans, 9 African militaries have drafted all-hazard “military support to civil authorities” disaster contingency plans, and 10 countries have developed disaster management strategic work plans. One country has used its pandemic influenza plan to assist in Ebola response, and 3 others have generated whole-of-government Ebola preparedness and response plans. Due to relationships built through the program, the Republic of Liberia requested Ebola support 1 month before a Public Health Emergency of International Concern was announced by the WHO and 2 months before the US military began Operation United Assistance. While the majority of international assistance focused solely on health, this program assisted Liberia in coordinating a whole-of-government response.

**Conclusion**
This approach has demonstrated a highly effective model for whole-of-government capacity-building in disaster risk management. Although outcomes from this type of engagement may take years to observe, Ebola has highlighted many of the benefits that arise from such a program.

**Keywords**
humanitarian assistance, Disaster Relief, Ebola

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**Dealing with Disasters-Proposed ICMM Disaster Coordination and Management**

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Disasters, both natural and man-made, result in losses of immense proportion in terms of human lives and property. Poor infrastructure development and failure of anticipation and planning for calamities compound the suffering of people in such situations.

The medical resources, both human and material or equipment, is precious and becomes all the more important in the face of a disaster. Early mobilization of these resources can save many lives and provide timely relief to the masses. The armed forces have their medical corps which have such resources readily available and can be utilized for this purpose.

The problem is their timely availability.

ICMM is a forum where the leaders of the armed forces medical services converge from all over the world to share ideas. This platform can be utilized to make a body whose purpose would be to engage and coordinate the medical resources which can be made readily available in case of a disaster anywhere in the world. The body will have an updated itinerary of resources which, in the face of a calamity, can act as a rapid response medical team. We have proposed a centrally formed Disaster Management and Coordination Cell by ICMM which can effectively provide medical relief in disaster. This body would also be responsible for coordination with other international organizations like United Nations and Red Cross.

**Keywords**: Disaster Coordination, ICMM, Rapid response medical team
Tunisian Health service of the Armies in humanitarian field

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Introduction
The health service of the armies is dedicated to medical support of the armed forces in operation. Since the fall of the Berlin Wall, the involvement of armies in the humanitarian field is increasingly sought.

Methodology
The authors present the results of external operations of the Tunisian health service of the armies (THSA) in: Congo, Cambodia, Somalia, Rwanda, Burundi, Kosovo and Algeria. They note ethical, logistical and security constraints.

Results
Since 1962, the THSA is at the middle of humanitarian field. He has participated in seven overseas operations. The THSA, in addition to support of the armed forces, participated effectively in support of affected local populations. He assured consultations, minor surgery, dental care and health education program. The operation in Kosovo and Algeria was purely humanitarian. Despite the absence of legislation, these humanitarian actions during peacekeeping operations have contributed to the acceptance of the allied forces.

Conclusion
The rigorous preparation of staff before leaving for external operations is essential for success.

Keywords
External operation, humanitarian, peacekeeping

Two Decade Humanitarian Assistance:
Tunisian Military Health Service Lessons Learned.

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Introduction
Medical officers are often asked to provide assistance to civilian population during disasters and humanitarian emergencies. This study aims to emphasize the contribution of Tunisian military health service (TMHS) in providing medical support to displaced population and highlights the complexity of such missions.

Methodology
After action reports of eight UN peace keeping operations (PKO) and three humanitarian missions were the source of the study. Missions have been carried out in Asia, Africa and Europe during the period 1992 – 2012.

Results
During PKO, health care to local population was provided depending on security conditions. One to two medical platoons were assigned according to the manpower involved. During humanitarian missions, a field hospital has been deployed with a multi-specialized medical team. Medical support covered mainly outpatient activities (10,080 consultations in Somalia, 3.355 consultations in Albania, 4093 in Algeria (pediatric 25%) with 202 post traumatic stress syndrome, 27,500 during Libyan crisis). Contribution to the Somali national immunization program permitted the immunization of 6,400 children and mothers. In Algeria, 13 surgical operations were carried out. During Libyan crisis, around 400 injured in action have been supported from both sides in conflict. Others activities were integrated like camp hygiene control, communicable diseases epidemiologic survey, mental health promotion, maternal and infantile health promotion. Personnel faced several Constraints: Logistics, techniques, financial, climatic, and security but gained experience when conducting such missions.

Conclusion
Armed forces are requested to support operations and answer to the major catastrophes. In this new dimension, the department of health is one of the most requested components.

Keywords
Humanitarian assistance, displaced population, Medical support, Armed forces, Tunisia

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(1)Directorate General of Military Medical Service - Tunisia

Introduction
Field hospitals are often assigned to provide assistance to an earthquake victims. This study aims to highlight the role of pre-deployment coordination, required to such assistance to adapt health support to victims' real needs.

Methodology
An earthquake occurred on May, 21, 2003, in the region of Boumerdes Algeria. More than 2,000 deaths, 10,000 injured and 30,000 unsheltered people. International response was immediate: more than 80 NGOs from 25 countries were deployed mostly with specialized rescue and medical teams.

Results
A Tunisian field hospital was deployed in the fourth day after this traumatic major event. At that time, trauma-injured victims have been already evacuated to hospitals. Medical commanders, planners and logisticians took into account the deployment period and adapted their medical assets before they deploy, to fit real needs in the post-traumatic phase. Priority was given to medical specialties rather than surgery. Pediatrics, pharmacy and psychological support were the most needed specialties. Small surgery team including orthopedics, anesthesia and intensive care was involved to face possible aftershocks that can occur. Medical care was provided to 4093 patients through 17 days (average = 340 patients per day). Thirteen surgical operations were carried out under general anesthesia and 10 tons of free medications were brought from Tunisia and given to patients. Acute post-traumatic stress disorders were observed within 13% of patients.

Conclusion
Pre-deployment coordination with disaster on site manager is necessary to guarantee the success on such mission. It allows to adapt medical assets capabilities before team deployment to fit the real victims’ need.

Keywords
earthquake, humanitarian assistance, pre-deployment coordination, Tunisia

Military Humanitarian Assistance in Disaster Relief Operations.

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Introduction
In disaster situations, the operation of society is seriously disturbed by human, material and economic loss. In such cases, the country can request for international assistance. France can respond with:

Methodology
- Civil defence means, depending on the Ministry of the Interior: initially devoted to national catastrophe management and daily assistance to victims, today they are extensively employed abroad. They include professional emergency service personnel and deployable medical teams. Most of them are military. Thanks to their search and rescue teams and their medico-surgical field hospital (ESCRIM), it is a rapid response team, which will precede the setting up, in the longer term, of classical humanitarian care structures.

Results
- Military defence means, depending on the Ministry of Defence: on the one hand they consist of logistical resources for back-up, help with reconstruction, and on the other, resources of the health department of the Armed forces. Originally set up for the care of combat-wounded, it is now largely involved in taking care of civil populations whether they be victims of armed conflict or affected by natural disasters.

Conclusion
The real issue resides in the organization and coordination of the rapid influx of human and logistic means in a complex situation (in which official structures can themselves be affected) with a view to enabling the care and treatment of as many victims as possible.

Keywords
humanitarianism, disaster medicine, military medicine
The Effect of Pollutants and Age on Forced Vital Capacity among Aircraft Technicians

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Introduction
The aim of this study is to prove the effect of risk factors (pollutants, age, smoking duration, and body weight) with Forced Vital Capacity (FVC) among aircraft technicians. Forced Vital Capacity reduction that indicates restrictive lung disorders can impair respiratory function and degrade the performance of aircraft technicians, so it is important to identify the risk factors that decrease FVC.

Methodology
This study used a cross-sectional study design with purposive sampling among aircraft technicians. Data collection was conducted from May 16, 2013 until May 17, 2013 at Technic Squadron 021 Halim Perdanakusuma Air Base Jakarta and Institute of Aviation Medicine Dr. Saryanto (LakespraSaryanto) Jakarta. Data retrieved by interviews and questionnaires by researchers and spirometry examination. The data were analyzed by linear regression.

Results
Total subjects who completed the study amounted to 135 people. FVC value between 61 to 123 with an average of 85.77 ± 12.18. This study showed that pollutants proved to have a significant effect with FVC among aircraft technicians [r = -2.43; 95% confidence interval (CI) = -3.06;-1.80 ; P = 0.000]. Age had a significant effect with FVC among aircraft technicians (r =    -0.42; CI = -0.64;-0.19 ; P = 0.000). 1 point increase in pollutants score and 1 year of age will decrease the value of FVC 2.43% and 0.42% respectively

Conclusion
Pollutants and age proved to affect the value of Forced Vital Capacity among aircraft technicians

Keywords
Pollutants, age, forced vital capacity

The Effect of Body Mass Index and other Factors on VO2 Max Score among Civillian Pilot in Indonesia

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(1)TNI AU

Introduction
Pilot should have optimum physical fitness. One indicator to determine physical fitness is VO2 max. Body Mass Index (BMI), age, physical activity and smoking habit can affect VO2 max score. The aim of this study was to find out the effect of BMI, age, physical activity and smoking habit on VO2 max score among civilian pilots in Indonesia.

Methodology
The subjects of this study were civilian pilots, undergoing medical checkup at Balai Kesehatan Penerbangan (air force health center) at May 13-24 2013. This cross-sectional study used purposive sampling method and linear regression to analyze data.

Results
The study with 114 subjects found negative correlation between BMI and VO2 max [regression coefficient (r)= -0.30; 95% Confidence Interval (CI)= -0.62 : 0.016; P= 0.063], negative correlation between age and VO2 max (r= -0.33; 95%CI= -0.44 : -0.21; P= 0.000), positive correlation between physical activity status and VO2 max (r= 2.66; 95%CI= 2.09 : 3.23; P= 0.000). Smoking habit did not demonstrate significant correlation with VO2 max. One point addition of NASA physical activity status will give 2.66 point elevation of VO2 max, whereas 1 year increasing of age or 1 point increasing of BMI will lower 0.33 and 0.30 point of VO2 max score. Brinkman Index didn’t seem to have significant correlation with VO2 max score.

Conclusion
Increased BMI and age will lower VO2 max score. However, better physical activity increase VO2 max score.

Keywords
VO2 max, BMI, Civil Pilot Indonesia
Social determinants of health and factors influencing health care utilization in rural community, Thailand

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Introduction
Since Thailand health reform, universal health insurance enables Thai citizens with accessibility to health care. Urbanizations of the rural Thai communities have raised concerns regarding local health needs, social health determinants and factors influencing health care utilizations. Evidence suggests relationships between such changes and selection of health care services. These issues therefore are not only keys in decreasing the severity and complications of illness from late diagnosis and treatment but also achieving health equity across the nations.

Methodology
A mixed-methods study comprised of a cross-sectional study to determine access patterns and a qualitative component using in-depth interviews to identify social determinants and factors influencing health care utilization.

Results
Despite the fact that up to 90% of the population was covered by universal coverage scheme, only 62.8% chose to use governmental facilities while 37.2% selected private care services. Qualitative findings demonstrated that local social health determinants were among the reasons underpinning health care utilization. Quality of services, severity of disease, physical environment and transportation costs were identified as factors influencing health care choices. Interactions of the issues valued upon the provision of quality care delivery.

Conclusion
To improve health accessibility and governmental health care services unitization in rural community, emphasis in quality improvement of services will be critical. The capacity building activities must include increment in quality of care at primary care levels, practical allocation of catchment areas, effective transportation system and community approach in improving living conditions unique to each rural area which would better address changing trends in local social health determinants.

Keywords
Health care accessibility, Health care utilization, Universal Health Coverage, Social determinants of health

Healthcare Facilities During Hajj

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Introduction
Around 10 million peoples from different nations, regions and cultures visit Saudi Arabia for hajj every year. One of the major concerns of mass gathering is of communicable diseases resulting in outbreaks, or the exportation thereof. Communicable diseases associated with mass gathering vary depending on the type and location.

Methodology
Control of diseases and preventing their outbreak during Hajj is not simple. It is a major public health challenge that requires an undivided attention from a number of governmental and non-governmental sectors in Saudi Arabia.

Results
Multiple agencies join and work together to prepare for Hajj. Saudi authorities, including The Ministries of Health (MOH), Interior (MOI) and Hajj, The Saudi Red Crescent and other government health sectors, including The Saudi Arabian National Guard Health Affairs, the Ministry of Defense (MOD) and the Security forces all join together with a common focus of public health security. Within this framework, the MOH has made all preparations and arrangements to ensure safety of pilgrims during the Hajj season. They are providing pilgrims with high-quality preventive, therapeutic and ambulatory services through the health facilities distributed in the different areas of the Kingdom.

Conclusion
The entry ports of the Kingdom, as well as all roads the pilgrims take to perform Hajj rituals, in addition to the Hajj sites and Madinah until the pilgrims’ departure -Allah willing- for their countries healthily and safely. It is worth mentioning that all these facilities are provided with all requirements to provide preventive, diagnostic, therapeutic, and ambulatory awareness services.

Keywords
Health care, mass gatherings, Hajj
La pathologie Oto-Rhino-Laryngologique dans les demandes d'expertise au Centre Spécial de Réforme des Armées du Sénégal. Étude épidémiologique et clinique.

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Introduction
La réparation ou l'indemnisation dans les Armées Sénégalaises se fait à travers la commission de réforme, via le Centre Spécial de Réforme (CSR). Le CSR est un organisme médical et administratif chargé d'étudier la situation médico-légale des personnels militaires et des personnels des corps assimilés réclamant le bénéfice des dispositions du code des pensions militaires d'invalidité. La commission de réforme est une institution administrative rattachée à l'Etat-major Général des Armées et chargée d'apprécier les droits à pension de réforme ou d'invalidité des personnels militaires et des personnels assimilés. Elle a pour but de statuer médicalement sur l’aptitude au service et les invalidités des sujets qui lui sont présentés.

Le but de notre étude était de déterminer la part de la pathologie ORL dans les demandes d’expertises au CSR, d'identifier les variantes nosologiques les plus fréquentes, d'évaluer le fonctionnement du centre dans le but de l’améliorer et de mener des actions de prévention dans les Armées Sénégalaises.

Patients et méthodes
Nous avons mené une étude rétrospective portant sur 5 années, du 1er janvier 2010 au 31 décembre 2015. Les paramètres suivants ont été analysés : l’âge, le sexe, le grade, le corps d’appartenance, le délai de l’expertise (temps écoulé entre la date de demande et la date d’expertise), le diagnostic, le délai de présentation devant la commission de réforme (temps écoulé entre la date d’expertise et la date de présentation devant la commission), les taux d’Incapacité Permanente Partielle (IPP) proposés par les experts et ceux retenus par la commission.

Résultats
Le nombre de dossiers colligés était de 87 sur un total de 3102 dossiers ouverts, soit une fréquence de la pathologie ORL de 3%. L’âge moyen des requérants était de 48,7 ans avec des extrêmes de 27 et 65 ans. Ils étaient tous de sexe masculin. Il y avait 6 officiers, 37 sous-officiers et 44 hommes de troupe. Cinquante-sept des requérants étaient en activité et 30 étaient déjà radiés des contrôles. La majorité appartenait à l’infanterie (33 cas). Le symptôme le plus souvent retrouvé était l’hypoacousie associée ou non à des acouphènes, dans un contexte de traumatisme sonore, dans 52 cas (60%). Le délai moyen de l’expertise était de 14,5 mois avec des extrêmes de 1 mois et 65 mois. Le délai moyen de présentation devant la commission de réforme était de 8 mois avec des extrêmes de 1 et 24 mois. Le taux moyen d’IPP proposé par les experts était de 33% et le taux moyen d’IPP retenu par la commission était de 35%.

Conclusion
La pathologie ORL représente la portion congrue dans les demandes d’expertise au CSR (3%) ; elle est dominée par les surdités induites par les traumatismes sonores et les effets blast.

Malaria in Indonesia Army = Case Report and Treatment 2013 - 2014

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Malaria is an infectious disease that is still a problem in Indonesia, especially in TNI AD. The purpose of this report is to investigate cases of malaria in the ranks of TNI AD from 2013 to 2014 and is associated with geographic and its management. Data was taken from monthly reports at thirteenkesdam. There are high cases of malaria at Kesdam IX/Udy 46 cases, Kesdam XVI/Ptm 25 cases, and Kesdam XVII/Cen 363 cases (in favor of malaria endemic areas determined by the Ministry of Health with consist of Papua, West Papua, Maluku, North Maluku, and East Nusa Tenggara) There are still high cases of malaria (Kesdam II/Swj 269 cases and Kesdam XII/Tpr 98 cases). This happens because of local geographics such as beaches, swamps, mining pools, and rivers. A holistic management which consist of promotive, preventive, curative, and rehabilitative and also good coordinated report system may redtice malaria cases in the ranks of TNI AD.
Highlight Comprehensive Knowledge of How HIV Prevented (One of MDGs Goal) Among The Indonesian National Defence Forces Personnel (Base on IBBS 2012)

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Sub Service Prevention Medicine
Surgeon General Indonesian National Defence Force

Introduction
One of the goal Integrated Biological and Behavior Survey among the Indonesian military is knowledge and perception of transmission and prevention of HIV among INDF personnel. The goal are going to get information about level of comprehensive knowledge about HIV and AIDS prevention, that information would have given capture implementation MDGs in INDF community.

Methodology
The respondents were consisted of male INDF members deployed of unit in six priority provinces: Riau Islands, DKI Jakarta, West Java, East Java, Bali, and Papua. The sample was collected by force (Army, Navy, and Air Force) proportional to force size in each province. Survey respondent were chosen via stratified, one-stage cluster sampel of unit. All personnel associated with chosen of the survey were include in the sample.
Data were collected anonymous from respondent sample in a designated location on each sample bases. Behavior data were collected using Audio Computer Assisted Self Interview (ACASI).

Result
Nearly all respondent (94%) had ever heard of HIV and AIDS, INDF members received their information about HIV a wide variety of sources, including health workers (80%), TV (58%), newspaper (47%), INDF educational institution (39%), poster/leaflet (36%) and the internet (33%). Comprehensive knowledge of how HIV is transmitted and can be prevented was measured by he five indicators comprising the composite HIV knowledge indicator in Indonesia’s Millenium Development Goals (MDGs).

Most respondent (73%) knew that having sex with only one (HIV-negative) partner was an effective prevention method, but knowledge level on the others four items are care concern. Less than 10% of respondents (8,8%) answered all five question correctly.

The results of survey have given evidence based of comprehensive knowledge among INDF personnel such as:

1. By age: the higher to lower comprehensive knowledge about HIV and AIDS are 30-34 years old (10,6%), 25-29 years old (9,7%), >=35 years old (8%), <25 years old (7,1%).
2. By province; the higher to lower comprehensive knowledge about HIV and AIDS are Papua (10,6%), DKI Jakarta (10,4%), Bali (9,5%), Riau Island (8,8%), West Java (7,1%), and East Java (6,27%).
3. By force: the higher to lower comprehensive knowledge about HIV and AIDS are air force (10,4%), navy (8,6%), Army (8,4%).
4. By rank: the higher to lower comprehensive knowledge about HIV and AIDS are officer (13,8%), non commissioned officer (9,4%), and enlisted (7,5%).
5. By education: the higher to lower comprehensive knowledge about HIV and AIDS are university/college (15,4%), senior high school (8,9%), and junior high school (4,0%).
**Prevalence and Associated Factors of Attention Deficit Hyperactivity Disorder (ADHD) in a Rural Community, Thailand**

**Orasit Sukreeyapongse(1)**

(1) Pramongkutklao College of Medicine, Thailand

**Introduction**

The most common psychiatric disease in childhood at the present time is ADHD. The Attention Deficit Hyperactivity Disorder (ADHD) is one of common behavioral problems in children around the world including Thailand. The disease affects their life, parents, and community if they are left untreated. Most information of ADHD in Thailand was from the studies in urban. A preliminary survey in a rural community conducted by the Department of Military and Community Medicine, Pramongkutklao College of Medicine revealed that ADHD was common in this community too. The present study was determined the prevalence and the associated factors of ADHD in this population.

**Methodology**

This condition was screened using the SNAP-4 and then confirmed by licensed Pediatric Psychiatrist using the DSM-V criteria. Standardized questionnaires were collected the demographic data and associated factors. Qualitative study using focus group discussion and in-depth interview was performed.

**Results**

The prevalence of ADHD was 2.2%. Univariate and multivariate analysis showed that children with ADHD were associated with failure in school including repeating a class, being suspending, and school moving, and a history of bulling. Qualitative data showed that both parents and teachers had inadequate knowledge of ADHD. Both parents and teachers considered that these children had no learning ability, responsibility, and discipline. Local health care system could not detect this problem so these children were not properly treated.

**Conclusion**

Our data emphasize that ADHD is also a problem in rural community. The knowledge of ADHD including the screening test should be provided for the teachers in these rural communities.

**Keywords**

ADHD, Prevalence, Associated factors, Rural, Thailand

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**Dengue Epidemic Taken as Malaria in the Mauritanian Military Environment**

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(1) DGSS FAS, Mauritania

**Introduction**

Biological semiotics, misunderstood or much neglected, is an analytical approach to integrating biological data in the argumentation of the positive diagnosis of certain diseases. Biological semiotics greatly contributed in resolving the mystery of the dengue outbreak in fall 2014 in Mauritania.

**Methodology**

However, all these patients had in common, but at different scales, biological disturbances mainly affecting secondary parameters such as leucopenia, hepatic cytolysis, thrombocytopenia, hemoconcentration, atypical lymphocytes etc ... Some patients complain against unusual intensity of mosquito bites and especially during the day light.

**Results**

Facing the redundancy of this atypical biological scheme (sometimes described in some tropical diseases), lacking of biological evidence of malaria, and under the pressure of the analysis results of the now called “Tayaret fever,” the laboratory of the Military Hospital of Nouakchott suggested to the emergency specialists to prospect the path of the Dengue fever. RDTs performed on the serum bank on August in the Military Hospital of Nouakchott revealed the existence of Dengue

**Conclusion**

Two months later, the public health departments in collaboration with the Pasteur Institute of Paris confirmed a Dengue epidemic, an strange disease to our health system, coming in addition to the epidemiological spectrum of emerging diseases of Mauritania.

**Keywords**

dengue paludisme mauritania, dengue, Malaria, mauritania
Avian influenza is an illness which does not only affects the health of the society but also affects ideology, economy, social, culture even defense and security. DKI Jakarta has the greatest number of confirmed avian influenza case after West Java. Until March 2015, there are 56 confirmed cases with 47 fatalities (CFR 84%). Therefore it is required to set up a regional regulation to regulate the poultry farming dan distribution in DKI Jakarta to prevent further spread of the disease. The government of DKI Jakarta from January until recently has implemented regional regulations to control the spread of the disease in the Jakarta region. The government of Jakarta since the issuing of the regional regulations has done field works to implement the regulations. The program and activities has run for 8 years therefore an analysis and review of the policy is required especially on the aspect of policy input, process, and output.

This paper will analyze the making of avian influenza regulation and its implementation in Jakarta, with stresses on the policy input, process, output, and outcome. Research design used qualitative approach with in depth interview involving people which directly involved in the making of the policy and other supporting informants relating to the policy implementation. Primary data of the interview will be confirmed with secondary data, document analysis and field observations. Data analysis used content analysis method.

The result of the research suggest that Perda No. 4 2007 has reffered the higher ruling. The issuance of this regulation was introduced due to the development of AI globally, regionally, and locally in Jakarta, and pressure from interest group along with the leadership of the Jakarta Governor. Some of the successful implementation of the regulation is the socialization of the Pergub but not with the Perda. Coordination, communication, and information between agencies is well executed. Depopulation on the sector 4 of the poultry farming has been done but has not fully completed yet. Vaccination is no longer the main control strategy but bio security approach is better suit for the program. Animals certification is a compromistic policy to accommodate the bird lovers though the implementation was well executed only in the beginning but poorly done on the 6 months periodic requirement. People obedience to the government regulation needs to be further enforce by socialization and strict law enforcement by the authority. The number of morbidity cases of pre and post implementation of the regulation has shown a decreasing trend including the mortality trend. But the number of confirmed CFR remained high.

The suggestion offered is the need to establish a new more comprehensive provincial law to control AI in Jakarta on the aspect of the objects and subjects involved in order to conduct a more integrated preventive measures as mandated by Inpres No 1 year 2007 about instruction to enhance the intensity of AI control involving TNI and Polri. The suggested governorial law need to be equipped with an in depth academic analysis and also consider the geographical, demographic, and natural resources aspects in Jakarta.
Prevalance of Maloclussion in patients with Temporomandibular Disorders

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Introduction
Temporomandibular Disorders to the prevalence of malocclusion

Methodology
Description

Results
The purpose of this Case study is to explain the prevalence of malocclusion in Patient with Temporo-mandibular Disorders in association with Indonesia Army Recruitment Programs. Temporo-mandibular Disorders has The four signs of the temporo-mandibular disorders were deviation jaw movement in opening and or closing of the mouth, temporo mandibular joint sound, pain in area around temporo-mandibular joint and limitation jaw movement. Malooclusion is misalignment or incorrect relation between the teeth of the two dental arches when they approach each other as the jaws close, may be coupled with skeletal disharmony of the face where the relations between the upper and lower jaws are not appropriate. Werving is a program selection and recruitment personnel in Indonesia Army.

Conclusion
Most of the Malocclusion in Patient with Temporo-mandibular disorders shows the prevalence of malocclusion, most of them such as no crowding in upper jaw, moderate crowding in lower jaw, extreme overjet, moderate to severe overbite.

Keywords
Temporomandibular Disorders, Prevalance of Maloclusion, Orthodontic Treatment

Marketing Communication Which of Contributing to Dentistry Department of Indonesia Army Central Hospital Gatot Soebroto

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Introduction
Comunication is spreadhead of marketing, marketing actions are often not or less known by cossumers especially community Indonesian Army soldiers and their family , the lack of action undertaken marketing communications.

Methodology
Description

Results
The lack of marketing communications causing Departement of dentistry has not been carried out comprehensively. Because the lack of action marketing communication. Marketing Communications are consist of advertising, sales promotions, public relations, and direct sellings. Services in Departement of dentistry Indonesia Central Army Hospital is the oldest and services have the experiences more of service that is in the hospital in Jakarta to serve Indonesia Army community and the people of the city. According to visiting data to this unit in the 2012/2013 compare to previous year approximately 10 % down therefore the purpose of this case study is describing mixture of marketing communications services in Departement of dentistry Indonesia Central Army Hospital.

Conclusion
The result of the case study indicates that marketing communications activities for this supreme unit has not been carried out comprehensively. The activities have just reached the produce of the messages, has not yet worked for the target of those messages.

Keywords
marketing communicate mix, RSPAD GatotSoebroto, marketing team
Prosthetic Rehabilitation Cancer After Operation on Nose  Edentulous Patients

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Introduction
Cancer surgery nose is the nose resection involving maksiloanterior. Defects generated after post nasal cancer surgery will cause distortion of the face and will cause disruption and disturbance stomatognatik muscles of the oral cavity. Prosthetic rehabilitation is an important part in the reconstruction of post-surgical patients with oral cavity cancer of the oral cavity.

Methodology
Case Report

Results
Writing this case report aims to inform the prosthetic rehabilitation after cancer surgery nose for edentulous patients. Cases and handling. 46-year-old female patient came to Ladogki with a diagnosis of cancer in the nose and nasal surgery has been carried out in RSCM Jakarta. Prostheses used in prosthetic rehabilitation is obturator imidiat, and obturator definitive. Definitive obturator in the form of denture edentulous patients with bulb on the defect. Obturator made to optimize the shape retention of the remaining anatomical structures. Conclusion. Prosthodontic rehabilitation of edentulous patients after rhinoplasty is the obturator imidiat, and obturator definitive form of complete dentures with bulb.

Conclusion
Writing this case report aims to inform the prosthetic rehabilitation after cancer surgery nose for edentulous patients.

Keywords
Defect, prosthetic rehabilitation, definitive obturator

Overdenture with Telescopic Handle Crown (Case Report)

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Introduction
Precision attachment is a precision mechanical retention tool that connects between one or more grip denture, which aims to increase the retention or stabilization. Precision attachment can be used in fixed bridge, removable partial dentures, overdenture, implants for retention overdenture, and maxillo facial prosthese. Overdenture with precision attachment can help in sharing the burden of chewable, minimizing trauma to the teeth grip and soft tissue, minimizing bone resorption, and improve the aesthetic and sound pronunciation. One type of connection precision is telescopic crown, the crown is composed of two kinds, namely primary crown is permanently attached to the abutment, and the secondary crown attached to the denture. Purpose: To provide information about rehabilitation partially edentulous maxilla patients with precision attachment telescopic handle crown with parallel-sided crown system.

Methodology
a model study with preliminary bite record. Root canal treatment performed on tooth 13, followed by the installation of fiber posts and rewalling buccal wall. Teeth 13 and 14 carried out a full crown preparation, followed by printing a working model for primary coping and metal frame with double impression method. Primary coping was cemented on the abutment teeth, and testing the secondary coping with the metal frame, bite recorded, molding working model, teeth placement and testing the teeth placement on the patient, processed in the dental lab and insertion on patient.

Results
patient was satisfied and comfort.

Conclusion
Removable partial denture metal frame treatment with precision telescopic handle crowns attachment selected to enhance the aesthetic, tooth retention, stabilization, and maintain the remaining teeth.

Keywords
Overdenture, telescopic, crown
Microvascular Free Flaps in Head and Neck Reconstruction

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Background
There are many different ways to reconstruct of the head and neck region. The defects can be classified according to location and extent, as well as involvement of the mandible and maxillary including mucosa, skin, and tongue. State of the art reconstruction aim to restore function and improve cosmetics. We described the techniques used in patients treated and to answer the more common questions associated with the head and neck reconstructive techniques.

Methods
A review of techniques of the head and neck reconstruction used by our team over the last ten years and a review of the literature.

Results
Various techniques of reconstruction gained from our experience in treating patients with resection of benign or malignant lesions, odontogenic cysts or osteoradionecrosis are documented. There are a variety of techniques including regional pedicle flaps and free osteocutaneous flaps. Metallic implants such as reconstruction plates, mini plates and osseointegrated dental implants may also be used for dental rehabilitation.

Conclusions
The surgeon must evaluate which components of the hard and soft tissue are missing in selecting a method of reconstruction. Modern techniques for microvascular tissue transfer provide a wide array of reconstructive options that can be tailored to patients specific needs.

Keywords
Head and neck reconstruction, fibular flap, deep circumflex iliac artery flap, scapular flap, myocutaneous flap, osseointegrated implant, osteomyocutaneous flap

Removal of the Maxillary Left Canines Impacted Teeth and Headache in Children (Case Report)

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The canines impacted have a high prevalence after third molar impacted. Impacted of the maxillary canines occur 2 times more in female children than male. Location of the tooth inclination towards the midline of the facemorethan45°have a poor prognosis for eruption. Therapy for the canines impacted is surgical decision (surgical exposure) and orthodontic traction. The purpose of this case report is to provide information removal of the maxillary left canine impacted in children as surgically with local anesthesia. This case was reported in female aged 12 years and 6 months who come in Pediatric Dentistry Clinic of the Dental Hospital of Prof Soedomo with a chief complaint of headache is often left as well as 23 unerupted teeth. Based on history, clinical examination and radiological appear the 23 teeth inverted its position, needs to be done with the method in totoodontectomy. On the control of the 7th day looks ulcers on gingiva. The 63 teeth is maintained because of aesthetics and no shakiness. Orthodontic traction in these patients was not performed because the deep location of the 23 teeth and the position was inverted in 180°. Conclusion of this case report is the impacted 23 teeth which inverted its position (the tooth crown in the direction of cranial and labial surface toward palatal) possibility can cause effects headache of left continuous, needs to be done with the method in totoodontectomy. Step of the 23 teeth odontectomy succeed through envelope flap creation and ending interrupted suturing. On the control of the 7th day and after 1 month, ulcers had healed and the patient does not feel headache left again.

Key words: The maxillary left canines impacted, Odontectomy, Children
Contribution of the dental pulp’s DNA in the identification of carbonized corpses.

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Introduction
The tooth is the most resistant organ in the matter of carbonization, protected by the muscles of the lips, the tongue, and the maxillary and mandibular bones. It is the organ of choice for the study of DNA in the matter of forensics, because it features a pulp tissue that is protected by the mineralized, hard and resistant enamel.

Methodology
Nine corpses in a state of extreme carbonization were presented to us at the morgue of the central military hospital of instruction of Tunis. They were the victims of an ambush that has occurred on the 16th of July, 2014, at the western border of the country. The corpses were examined by a multidisciplinary team composed of: doctors, forensic dentists, radiologists, genetists.

Results
Two corpses were identified by comparing the post mortem odontograms with ante mortem dental records. Two others were identified by visual recognition (parts of their faces were saved) by comparing them with the identity photos of the victims. Six corpses were identified by comparing the DNA extracted from their dental pulps with the DNA of the parents of the victims.

Conclusion
In the matter of identification, forensic odontology is integrated in a multidisciplinary work (forensic doctor, thanatologist, genist, anthropologist, forensic and judiciary police…) within an identification unit for the victims of catastrophes. The creation of an identification unit is not only necessary but also very urgent.

Keywords
Identification, denta pulp, carbonizaion, pulp DNA

Patient’s Assessment of Dental Care Quality in Nigerian Military Hospitals

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Introduction
Military patient’s assessment of quality of dental care services has become increasingly important to policy makers, dental care workers and patients but reports on there assessment is scarce in the literature. The aim of this work is to report the patient assessment of dental care quality received at two Nigerian military hospitals as a contribution to the literature.

Methodology
Patients seen at the Dental Centres of Military Hospital, Lagos and 68 Nigerian Army Reference Hospital, Yaba, Lagos between June and November 2013 were recruited for the study. Each patient was self-administered 32-items questionnaire divided equally between expectations and perceptions of patients to determine the quality of dental care received based on dimensions of service proposed by Parasuraman et al.

Results
197 questionnaires were retrieved of which 103 were above 18 years of age and were having their first dental consultation. The greatest expectation of patients was for knowledgeable staff (mean 4.75±0.63) while the greatest perception was for pain-free dental treatment (mean 4.58±0.71). Perceptions were generally lower than expectations among these patients. Overall mean expectation was 4.48±0.87 with perception as 4.17±0.91, leaving a gap of 0.31.

Conclusion
Overall, patient’s expectations exceeded perceptions. There was generally great expectation for knowledgeable staff while pain-free dental treatment had greatest perception.

Keywords
QUALITY, DENT CARE, Military
Comparison of Forces between Prefabricated and Hand Made Uprighting Springs in Begg Technique

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Introduction
The purpose of this study was to determine the force generated by uprighting springs at different bracket angulation and to determine whether significant differences exist among the commercially available uprighting springs.

Methodology
A special apparatus simulating the clinical degrees of bracket angulation was mounted on an Instron universal testing machine.

Results
By this method, forces produced by the commercially available uprighting springs were determined and compared. Force data were compiled for thirteen groups of samples consisting of twenty uprighting springs each. For each sample spring, forces were recorded for each of eleven different degrees of bracket angulation.

Conclusion
The test for independent samples was used to ascertain whether any one group was significantly stronger or weaker.

Keywords
uprighting spring, force, Begg TECHNIQUE

Dentists’ Consideration in Military Operations

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(1)Indonesian Navy

Introduction
Every troops or military personals had to improve oral health before, during and after military operations consideration

Methodology
Survey on dental medical reports of dentist UNIFIL Hospital during January - October 2010

Results
There were dental visited during January - October 2010 in the mission in every country that involved in UNIFIL mission, dominantly with treatment namely operative dentistry, endodontics and minor surgery

Conclusion
Consideration dentist in military operation absolutely needed

Keywords
Dentists, military operations, dental treatment

Effect of hyperbaric pressure against glass ionomer cement shear strength

Lieutenant Colonel Bima Pramundita DDS. Prosthodontist

Diving is a maritime activity it’s been popular amongst public society and the military. Divers in underwater activities receive hyperbaric pressure which is higher than the environment from water mass surrounding it and heavy atmosphere above water surface. Oral cavity and teeth receive same amount of hyperbaric pressure with the diver’s body surface. Use of bridge casting fillings and crown with luting agent glass ionomer cement has been used widely. Zinc oxy phosphate as one of luting agent in an invitro studies by Mu Sajo, et al (1992) decreasing up to one third after 3 atm hyperbaric pressure. Over 15 times frequency (Lyons, et al (1977) supporting the statement above.

Looking into the effect on hyperbaric pressure against shear strength of glass ionomer cement. Using glass ionomer cement Fuji I (GC. Japan) brand and 75 sample between nickel crome alloy using Bellabon N brand, flat pieces of dentin with cylinder shape 7-9 mm diameter and 2 mm thickness. Both metal cuts and dentin are attached to glass ionomer, after24 hours sample are put into Monoplace Chamber device with 3 or 4 atm pressure and 15 or 30 times frequency.
Samples tested their shear strength with Autograph Shimadzu Japan device. Results are being analyzed with One-way anova test, then with Least Significant Different test. Glass ionomer cement that’s been given 3 atm hyperbaric pressure 30x frequency and 4 atm 15x frequency shows a decrease up to half it shear strength compare to control group. These results from cohesion strength of glass ionomer cement are broken because of hyperbaric pressure. Changing of microbubbles gas volume that’s trapped inside glass ionomer cement will impair the balance of Van Der Wall bond resulting repeated contraction on glass ionomer cement material giving rise to destructive force to glass ionomer cement luting.

The Veterinary Service of the Bundeswehr

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Introduction
The presentation gives an overview over the tasks, capabilities, and organisation of the veterinary service within the Medical Service of the Bundeswehr.

Methodology
It will describe the tasks conducted by the different Supervisory Centres for Public Law Tasks of the Bundeswehr Medical Service, the Central Institutes of the Bundeswehr Medical Service, and other veterinary installations like the School for Military Working Dogs.

Results
The presentation will also give an impression of the tasks of the veterinary officers and other veterinary personnel carried out in missions abroad.

Conclusion
The Veterinary Service of the Bundeswehr is a modern equipped service with a wide range of tasks and capabilities.

Keywords
Veterinary Service, Bundeswehr, Veterinary Public Health, Military Working Dogs

Handling of rabies in the air force base Halim Perdanakusuma

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Introduction
First discovered in Indonesia on the island of Java in cattle in 1884 by Esser, in dogs in 1889 by Penning whereas in humans was first discovered in Indonesia in 1894 by E.V. de Haan.

Methodology
At this time Rabies is a zoonotic disease that is a major in Indonesia. Rabies is caused by rabies RNA virus from familiaRhabdoviridae, genus Lyssa. The animals that can be infected is warm-blooded animals egcows, cats, dogs, monkeys etc. DKI Jakarta is a rabies -free areas. In Environmental Indonesia Air force base Halim there is housing the Air Force members and their families. In general they keep pets such as dogs, cats and monkeys. The third animal is an animal that is susceptible to rabies. In order to prevent the onset of disease Rabies, veterinarians extend and provide services for pet rabies vaccination Air Force residents and the surrounding community. In its extension veterinarian advises pet owners to routinely vaccinate their pets and inform how other steps should be done if a human is bitten by susceptible animal rabies.

Results
Implementation of counseling and vaccination by military veterinarians through cooperation with relevant institutions. Expected to perform routine vaccination against pet and take steps against wounds caused by the bite of susceptible animal rabies expected Indonesia air force base Halim remains free of rabies.

Keywords
Handling of Rabies, pre-exposure vaccination, bitten by susceptible animal rabies, rna virus
Pedobarographic Measurements After Minimally Invasive Achilles Tendon Rupture Surgery

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Introduction
Gait abnormalities after Achilles' tendon rupture may occur and influence the long term outcome. The aim of the current study is to assess the foot pressures and gait pattern with pedobarography after minimally invasive surgical treatment of Achilles' tendon rupture.

Methodology
15 male patients treated for acute Achilles' tendon repair with minimally invasive technique between 2010-2012. The mean age was 28.7 (24-42) years. The mean follow-up time was 2.3 years (1.5-3). All patients had sports related Achilles' tendon rupture and all of them had undergone surgery in 24 to 48 hours period. After the surgery, patients were allowed for full weight bearing and mobilizing with a short leg circular cast applied for 4 weeks. Pedographic measurements and gait analysis performed 1 year after the surgery.

Results
Three patients had some numbness at the incision site. When we compare the mean foot pressures between the operated foot and the normal foot, there was minimal asymmetry between injured and uninsured extremities in three patients which was not significant statistically (p>0.05). There was a slight difference between peak forefoot pressures and heel pressures. There wasn't any difference between operated and normal feet in terms of gait cadence in all patients.

Conclusion
In our study, there was no difference in terms of gait cadence and foot pressures in 15 patients. This can be explained with early rehabilitation and minimal invasive tendon repair method. As a result, for appropriate recovery of ruptured Achilles' tendon functions we strongly emphasize early rehabilitation and use of minimally invasive surgical methods.

Keywords
Achilles' tendon rupture, minimally invasive, Pedographic

Studying effect of Roy’s adaptation model-guided education on coping strategies of the veterans with lower extremities amputation

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Aim
Any defect in extremities of the body can affect different life aspects. The purpose of this study is to investigate the effect of Roy’s adaptation model-guided education on coping strategies of the veterans with lower extremities amputation.

Methods
In a randomized clinical trial 60 veterans with lower extremities amputation referring to Kowsar Orthotics and Prosthetics Center of Veterans Clinic in Tehran were recruited with convenience method and randomly assigned to intervention group and control group in 2013-2014. To data collection, Lazarus and Folkman coping strategies questionnaire was used. After completing the questionnaires in both groups, maladaptive behaviors were determined in the intervention group and education program based on Roy’s adaptation model was implemented. After 2 months, both groups completed the questionnaires again. Data was analyzed with SPSS software.

Results
Independent T test showed that score of the dimensions of coping strategies did not have statistically significant difference between intervention and control groups in pre-test stage (P<0.05). This test showed statistically significant difference between two groups in post-test stage in terms of scores of the different dimensions of coping strategies (P>0.05), except in dimensions of social support seeking and positive appraisal (P>0.05).

Conclusion
Findings of this research indicated that the Roy’s adaptation model-guided education improved majority of coping strategies in veterans with lower extremities amputation. It is advised the more intervention based on Roy’s adaptation model-guided education.
model for improving coping of the veterans with lower extremities amputation was implement.

Key words
Amputation, lower extremities, coping, Roy’s adaptation model, strategy, veterans.

Functional Recovery Following Early Kyphoplasty versus Conservative Management in Stable Thoracolumbar Fractures in Parachute Jumping; A Randomized Clinical Trial

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Background
The routine occupational hazards of flying and parachute jumping place Army aviators at risk for sustaining high-energy traumatic injuries, such as thoracolumbar fractures. Management of stable thoracolumbar fractures in paratroopers is controversial. Currently most of them are treated conservatively by thoracolumbosacralorthosis (TLSO). However Kyphoplasty could be more effective as most of these patients are young and should retain their function as parachute. The aim of this study was to compare the functional recovery in paratroopers with stable thoracolumbar fractures between early kyphoplasty and conservative care.

Methods
This was a randomized clinical trial being performed in AJA University of Medical sciences during 2-year period. We included 64 AJA paratroopers with stable thoracolumbar fractures presenting less than 60 days after trauma and has hyperintensity in T2-weighted MRI. Old fractures and those requiring fixation were excluded. Patients were randomly assigned to two study groups to undergo percutaneous balloon kyphoplasty (n=32) or conservative care (n=32) by applying TLSO for 2 months. Patients were followed for 6 months and were evaluated both clinically and radiologically. The pain and functional recovery were evaluated via VAS score and Oswestry disability index (ODI).

Results
The baseline characteristics were comparable between two study groups. T12 and L1 were the most common fracture site and the lag between trauma and treatment was comparable between groups (10.3 ± 2.3 vs. 11.4 ± 1.6 days; p=0.153). The VAS score (p=0.864) and ODI (p=0.671) were comparable between two groups on admission. Patients undergoing kyphoplasty had significantly lower VAS score at 1 (p=0.028) and 3 (p=0.035) months after trauma. The VAS score was not different after 6 months of therapy (p=0.082). The ODI was also lower in kyphoplasty group at 1 (p=0.02), 3 (p=0.03) and 6 (p=0.01) months of therapy. The mean days absence from work was significantly lower in kyphoplasty group (31.3 ± 8.6 vs. 68.6 ± 12.6 days; p<0.001). The mean duration for starting parachute jumping was shorter in kyphoplasty group (6.7 ± 1.1 vs. 12.6 ± 1.8 months; p<0.001).

Conclusion
The results of the current study demonstrates that early kyphoplasty in stable thoracolumbar fractures following parachute jumping is associated with less pain, better function recovery, less days of absence from work and shorter duration of back to jumping.

Keywords
Kyphoplasty; Conservative management; Thoracolumbar fractures; Parachute jumping

Planning a Curriculum for UK Military Doctors

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Introduction
The scope of work of UK military doctors differs from that of civilian doctors within the National Health Service. UK Defence Medical Services (DMS) doctors start their military career as General Duties Medical Officers (GDMOs), developing military competencies whilst delivering clinical primary care before starting higher specialist training. Although supervised, GDMO time is not recognised as medical training by the UK General Medical Council. Despite the UK Armed Forces working in an increasingly tri-Service way, GDMOs in the Royal Navy, Army and Royal Air Force have delivered their clinical outputs within different single Service medical structures, operations and procedures. Until now,
there has been no unified UK military medical curriculum.

Methodology
A syllabus has been developed to standardise the learning objectives for all UK Armed Forces GDMOs. A bespoke training course for GDMO Supervisors has been produced to augment the extant Introduction to Medical Education Course. Linking the GDMO syllabus, training and assessment has produced the UK military’s first GDMO curriculum.

Results
GDMOs are not in General Medical Council-recognised medical training posts, but deliver an important clinical service to patients within DMS primary care and emergency care on deployed Operations. The new UK GDMO curriculum standardises their educational processes and procedures across the UK Armed Forces. This provides better support to GDMOs and enhances tri-Service organisational governance and assurance of their clinical outputs.

Conclusion
The new curriculum better supports GDMOs, updates military clinical medicine, standardises structures and procedures in the UK and on deployed Operations, and enhances organisational governance and assurance.

Keywords
Curriculum, military medicine, Doctor, Education

Impact of a mixed Training and Education on Skills Development and Promotion among Military Trainees: PSMCHS Experience

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Introduction
The Prince Sultan Military College of Health Sciences (PSMCHS) was established on September 27, 1988 (16,1409H). The College took an initiative and offered military training and allied health sciences education to military trainees of all ranks. The purpose of this study was to promote a mixed military skills development programs with the long-term goal of helping military personnel acquire knowledge and skills to enhance their chances to be promoted to high military ranks.

Methodology
A survey approach using 49-items structured questionnaire was applied. The study covered the period from June 2014 – May 2015. During this period, 275 military personnel were identified (215 officers and 60 non-commissioned officers [NCOs]). These military personnel (N=275) were drawn from the College’s Registration Office, and were treated as a study sample.

Results
The data analysis process is in progress. However, the partial results demonstrate a promising outcome. This suggests that training and education obtained from the college played major role on officers and NCO’s promotion to higher military ranks.

Conclusion
Once the data analysis is completed, it is assumed that the findings will be largely to explore how strongly mixed approach military training and education is feasible, and how it can be shaped to improve a long-term military colleges training and education programs.

Keywords
Military, training, education

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Indonesia

Sistem pertahanan rakyat semesta (people's defense system) is the defense doctrine of the unitary state of Indonesia. In this doctrine, human resources is the most important thing, in addition to natural resources, man-made resources, and facilities. That means we have to choose and empower the right people to determine priorities. One of the human resources is health personnel including dentists and dental paramedics, which are sourced from the military and civilian. The defense doctrine is classified into military and non-military defense. Military defense is the defense of the country which is conducted by the personnel of military profession. It is divided into two categories: regular military and reserve military. Meanwhile the non-military defense is categorized into the reserve component and supporting component. In the National Defense Act No. 3 of 2002, Article 7 and Article 8, the country's defense component consists of the main components (Indonesian National Army), reserve component and supporting component. In peacetime, the status reserve component and supporting component is civil or citizen. Both components are able to be mobilized if the country is in a state of military emergency war. The declaration of war is stated by the president after it is approved by the House of Representatives. This paper will discuss the implementation of the doctrine of national defense by maximizing the health service and support both in peacetime and war. The discussion is divided into three subjects, namely: the structure of the doctrine, the role of the Indonesian National Army during peacetime and days of war, civil role during peacetime and war. The purpose of this paper is to improve our knowledge as members of military health in the defense system.

Keywords: doctrine, military and non-military, major component, reserve component, and supporting component

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Physical fitness and metabolic syndrome of Indonesian Air Force military personnel

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Background
Physical fitness is defined as an ability to perform physical activity with vigor and alertness. The component of health-related physical fitness assessment includes cardiorespiratory endurance, muscular fitness, musculoskeletal flexibility and body composition. The purpose of the Indonesian Air Force Military Personnel physical fitness test is to ensure the maintenance of a base level of physical conditioning essential for that personnel, to improve performance efficiency and military appearance and to promote health. Metabolic syndrome was defined as metabolic abnormalities that occur in the same individual and driving the twin global epidemics of type 2 diabetes mellitus (T2DM) and cardiovascular disease (CVD).

Aims
To define the characteristic of physical fitness and metabolic syndrome in Indonesian Air Force Military Personnel.

Methods
Data regarding physical fitness and laboratory examination were collected for Indonesian Air Force Military Personnel and combined with medical checkup record data collected in the 2009.

Results
A total of 154 male military personnel participated. The mean (±SD) physical fitness score was 60.30±7.73. Ninety-one percent of soldiers had a waist circumference ≤ 90 cm. Seventy-five percent of personnel was in the normal range of triglyceride (<150 mg/dl). All the participants had the normal range of HDL-C. Average blood pressure was 115.91±6.73 mmHg systolic and 78.64±4.36 mmHg diastolic. Twelve participants had a blood pressure ≥130/85 mmHg, and two others had increasing of fasting blood glucose (>110 mg/dl).

Conclusions
Fifty-percent of Indonesian Air Force Military Personnel had a good result of physical military fitness score. There was no personnel that was diagnosed as metabolic syndrome using NCEP-ATP III criteria.

Key words
Indonesian Air Force Military Personnel, physical fitness, metabolic syndrome.
The Effect of Static Exercise Bikes in Chronic Peripheral Arterial Disease

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Objective
Patients with chronic peripheral arterial disease have a problem in the ability to walk. Stationary bicycle, is one tool that could improve walking ability in patients with chronic peripheral arterial disease. This study aims to determine the effect of static exercise bikes in patients with chronic peripheral arterial disease.

Method
The study was conducted using pre-post test design studies without controls. The entire population of 25 subjects with ABI criteria values from 0.7 to 0.9, were willing to participate in the research program is voluntary, no dementia, no acute lower limb ischemia, there was no ulcer in the feet, capable of cycling, hypertension controlled, no heart attacks in the last three months, provided the exercise bike with 25 watts of output intensity, duration increased from 15 minutes per week from five minutes to 40 minutes, the frequency of first and second week three times a week, third week up to two sixth time per week for six weeks. Where all the people doing six minutes walking test before and after the exercise bike and the distance is measured to obtain.

Results
There is increasing the mileage six minutes walking test before and after of stationary bicycle exercise in patients with chronic peripheral arterial disease at an average of 51%.

Discussion
Hiatt WR et al (1990.2006), Mc Demott (2006), says that with exercise can lower blood pressure and pulse because of vasodilatation of blood vessels, Collateralization and efficient use of oxygen by the muscle.Paul Enright and L. Duane Sherrill (2002) and PAMS Noguiera et al (2006), says that the value of the standard six minute walking test on healthy people is 400-700 meters, while increasing the standard mileage six minute walking test chronic PAP more than 30% of the six minute walking test previously. This means that an increase in mileage is more influenced by the training itself.Hiatt WR et al (1990), Gardner et al (2001), Reybrouck T. (2003) and Mc Demott (2006), says that through the exercise bike in chronic PAP can increase blood flow, vasodilatation of blood vessels and kolateralisasi, muscle increases metabolism by increasing the efficiency of oxygen and reduce lactic acid production. Bicycle Exercise also can improve the mileage of roads and the ability to increase tolerance to pain and on road capability.

Conclusion:
There is increasing mileage six-minute walking test in patients with chronic peripheral arterial disease before and after exercise bike.

Keywords
Chronic peripheral arterial disease, exercise bike, six-minute walking test

A Compendium of International Military Health Science Schools

Marrogi, Aizenhawar; Burkett, Edwin; Fike, Jim; Kao, David; Bynum, Shalanda

Introduction: The mission of the US Uniformed Services University of the health Sciences (USU) is to prepare health professionals to lead US health forces in support of national security. Military health science institutions around the world likely have similar, distinctive goals. This project will compile profiles on military medical schools, primarily describing five areas: student education, faculty development, force health protection, global health, and operational medicine. Methodology: Through open source data, we have established a preliminary database of capabilities, curriculum, and student enrollment of 34 international military medical schools. From a US geographic command perspective the distribution is: PACOM (14), EUCOM (10), CENTCOM (5), SOUTHCOM (1), AFRICOM (1) and NORTHCOM (1). Of these schools, 65% have a dedicated military curriculum; in 35% the military program is embedded within a civilian institution. We will conduct a web-based survey that will validate the open source information for each institution, establish accurate profiles, and delineate unique strengths in education, faculty development, force health protection, global health, and operational medicine. We will publish this information as a Compendium of International Military Health Science Schools as special issue in a military medicine journal and use feedback to craft a new survey for annual updates. Conclusion: Opportunities exist for collaboration in education, research, and service between likeminded military health science institutions. This project will foster collaboration, generate potential for student and faculty exchange, enhance health education, contribute to medical scholarship, while allowing sister institutions to support their national interests through health science academia.
Formula Development and The Effectiveness Test Of Mosquito Repellant Lotion With Anopheles Mosquito

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Mosquito can cause death if the mosquito become a reservoir or vector of deadly virus. Such as Anopheles mosquito that can be a receptor of Plasmodium virus that cause malaria disease. This research is aimed to anticipate insect, in this case mosquito with insect repellant.

One of the plant that known has a repellant potency is Brotowali plant. The process of extraction was conducted by maceration method using 70% alcohol. The lotion made into three formula with different of extract concentration namely 15%, 20% and 30%. After that, physical evaluation were observed during of storage.

70% alcohol extract of Brotowali Stems contains chemical compounds that make the mosquito don’t like cause of it smell or it taste namely Alkaloids, Glycosides, Flavonoids, Terpenoid, and Saponin.

Keywords: Mosquito Repellant, Lotion, Effectiveness Test

Dehydrodisoeugenol Determination in Nutmeg Extract Tablet by High Performance Liquid Chromatography

Indonesia

Determination for dehydrodiisoeugenol in tablet of nutmeg extract can use reversed-phase HPLC with C18 column, methanol and water with ratio 73:27 as a mobile phase, ultraviolet detector at wavelength 282 nm with retention time 13.79 minutes. Recovery of dehydrodisoeugenol is 100.14% ± 0.55%, limit of detection is 0.892 µg / mL and limit of quantitation is 2.97 µg / mL. Concentration of dehydrodisoeugenol in tablet that contain of 300 mg nutmeg extract is 0.818 mg.

Keywords: dehydrodiisoeugenol, validation, HPLC

Characteristics of Water Supply-Quality for Ethnic minority communities in Northern border of Thailand

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Introduction
From humanitarian standpoint, one of army mission is to harmonize in developmental projects for ethnic minority along border area who is underprivileged and needy. The highlanders at northern border composed of many hill-tribes (Karen, Hmong and etc.) which are considered as humanitarian and military sensitive area. Shortage of water supply in areas nowadays has been alleviated by engineer corps in coordination with several organizations. Nevertheless, relatively few studies have been made to monitor the consumed water quality.

Methodology
Four of drinking water and four supplied water were collected from Mountain water supply system in frontier Omkoi district, Chiangmai Province. All cleaned sampling equipment was rinsed with native water at each site prior to collect. Some of parameters were processed within 72 hours and the rest were sent to Armed Force Research Institute of Medical Sciences, Bangkok. All samples were analyzed for 17 parameters of physicochemical and bacteriological properties included 8 toxic substances.

Results
Majority of quality problems (six samples) were related to high number of Coliform organism, range of 13 to 46 MPN/100 ml. Platinum scale of color were also excess allowed unit while otherwise parameters were within standard. None of samples contained adequate fluoride nor contaminated by toxic substances.
Conclusion
Results of water analysis provided some guidance which is relevant to public health issues. However, it would be costly to undertake monitoring on a regular basis in case of supplied system serve relatively small number of people. Water cleaning and sanitation-hygiene training are essential strategies that should be employed.

Keywords
water supply quality, humanitarian assistance, northern border of Thailand

The Efficacy of a Nutritional Educational Intervention on Knowledge, Attitude and Behaviour among Military Medical Students

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Background
Studies of successful nutrition education in the target groups is shown. Usage patterns of behavior change in increasing the effectiveness of the training has been approved. This study determined the effects of education on the pattern of food consumption among medical students in the army University of Tehran, Iran to the correct pattern of food intake have been conducted.

Objectives
This quasi-experimental study is are pre and post educational intervention on 242 medical students from the Military University of Tehran, Iran, with the age range of 18-32 years were randomly in two Control groups (n=107) and patients (n=135) selected.

Material and Methods
Knowledge level, health belief model structures (benefits, perceived barriers, perceived threat and self-efficacy) and the medical students from the army University of Tehran Iran, the pattern of food intake were compared using a four-part questionnaire(demographic characteristics, knowledge, health belief model structures and function) The play itself was completed questionnaires and then based on the data, model-driven curriculum and content of the data analysis was prepared before the test. Four weeks after the program, the second test(post test) was performed. Data obtained before and after the educational intervention, using the software 15 SPSS were analyzed.

Results
After the educational intervention, the mean score of knowledge, health belief model structure and behavior of students in the health pattern of food intake was significantly increased (p≤0.05). The mean knowledge 6.76 (1.452), including threats to health belief constructs 2.93 (1.147), perceived benefits 7.41(1.116), perceived barriers 5.44(1.831),self efficacy 4.28(1.479) and behavior 8.84(2.527) that after this amount to about 8.3(1.503), for structures that including threats to health 3.29(1.196), the 7.29(1.492), perceived barriers 5.9(1.719), efficacy 4.6(1.472) and the function was 9.45(2.324). The mean score of knowledge, health belief structures (perceived threat and self efficacy, perceived benefits and barriers) and employee performance, before and after an educational intervention was significant (p ≤0.05).

Conclusion
The effect of educational intervention on food consumption patterns in the Army Medical Sciences Students University of Tehran, Iran, suggests that effective use of health belief model intervention group compared with controls.

Key words: Health belief model, Behavioral intervention, Food consumption
Experiences of Managing Medicines Supply in Disasters and Military Missions in Gulf, Kosovo and Darfur Missions

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Introduction
Essential medicines are those medicines that satisfy the health care needs of the majority of the targeted population. Different missions might have different requirements. Therefore during Gulf war, Kosovo and Darfur conflicts we established a program for supply chain to maintain medical supply including medicines.

Methodology
A program was established to ensure supplying and managing medicines that could be used in missions. A modified medicine list was created adapting the WHO list. The list has about 320 items. It consists of minimum medicine needs for a basic health for priority conditions. Priority conditions are selected on the basis of current and estimated future public health relevance and potential for safe and cost-effective treatment.

Results
Experience with different missions has shown that there were several advantages of using the WHO list of essential medicines. These advantages include the relatively low cost, easy access from the local markets, facilitate supply and storage management, optimizing the rational use and minimize waste and errors. The use of essential medicines list enabled optimized the resources use and maintained effective use of pharmaceutical resources. This was especially true in conditions or areas with limited resources.

Conclusion
Prevention of diseases in areas that have high prevalence must be included in these programs. This required studying current and estimating future public health relevance of major conditions. The program has significantly improved communication, availability and rational use of essential medicines in these missions. It also facilitated managing endemic diseases and assisted providing educational programs health professions participating in these missions.

Keywords
missions, essential medicines, Gulf war, Kosovo, Darfur

Traditional Chinese Medicine is Important and Relevant to Health of Modern World

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Introduction
Having spent 2 years learning Traditional Chinese Medicine (TCM) at Changhai Hospital, I sought to review what this type of healthcare form means to the current and future of the health of humanity.

Methodology
Comparative

Results
the uniqueness and long history of TCM and have it compare with western medicine.

Conclusion
the TCM is still a great medical approach in the modern world.

Keywords
Traditional Chinese Medicine (TCM), uniqueness, comparison with western medicine
Identification of physical interaction between Anti-malarial Drugs Combination (ACT) Artesunate-Amodiaquine Hydrochloride

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Abstract
Identification of solid state to investigate the possibility of physical interaction between Antimalarial Artemisinin base Combination Treatment (ACT) AS and AK by hot contact method Kofler, cold contact method (crystallization reaction) and biner phase diagram confirmation had been carried out. The results of hot contact method Kofler shown formation a new crystalline habit as long and thin needle shaped on contact zone (mixing zone) between AS and AK. It had a different melting point in compared to its single component. Crystallization reaction (cold contact methods) between two of supersaturated solution of component AS and AK in methanol solvent also indicated the growth of crystal habit as similar as hot contact method Kofler. Confirmation by biner phase diagram shown the specific diagram for cocrystalline phase. Solid state interaction between AS and AK was analysed by powder X-ray diffraction, FTIR spectrophotometric, microscopic SEM and thermal DTA, TG-DSC. Microscopic analysis by SEM shown significantly the change of habit and morphology of crystal as long and thin needle shaped. The difference of powder X-ray diffraction (PXRD) interferences peaks were observed in addition to PXRD interference peaks of each component and its physical mixtures that proved formation of cocrystalline phase. DSC Thermogram indicated a new endothermic peak corresponding to melting point of a new cocrystalline phase at temperature 160.4 °C.

Keywords: Artesunate, AmodiaquineHCl, ACT, physical interaction, molecular compound/cocrystal, Kofler contact methods, cold contact methods, biner phase diagram, thermal analysis, crystallography, spectroscopic, microscopics.
Detection and identification of microbial agents is important step for accurate diagnosis of infectious diseases for treatment or prevention from spread to the society. Classical methods like culture, subculture, biochemical, immunological or other typing process are very time consuming, labor intensive, expensive and results are presented very late for the physician or the patient. There have been tremendous efforts to develop new rapid detection methods for microbial agents specially by indirectly analyzing antibodies to the agents or directly detection specific antigens by serological methods. But with advances in Molecular understanding of microbial molecules specially DNA, RNA and proteins and more importantly having rapid genome sequence of infectious agents it has been great progress in developing new fast detection and identification methods. Molecular Methods like PCR and its derivatives like nested PCR, Real time PCR, RFLP, AFLP, next generation sequencing and development of isothermal PCR, micro fluidic DNA amplification methods, hybridization techniques, Microarray, DNA chips, Protein Chips, lab on a chips and rapid immunological kits (lateral flow) on the base of monoclonal antibodies for rapid screening of field and environmental samples are few examples of these technologies.

There are numerous instruments and kit based methods developed for this purpose even personal detection systems, mobile labs and central reference laboratories are looking for rapid and even ultra-rapid detection methods. Even there are remote sensing detectors in military to detect presence of microbial agents from far distances this is applicable in biodefense and national security.

In this presentation I will introduce latest development in the field of simple, rapid and ultra-Rapid detection and Identification methods for microbial photogenes and rapid method for detection of anti-microbial resistance in the world of infectious diseases.

Role of Melatonin in The Expression of MDA, MPO on Microglia Cells and AQP4 and VEGF in Blood Brain Barrier of Rat after Head Injury

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Background
The brain injury is one of the conditions that are very harmful to human life. This study will examine the use of Melatonin in reducing oxidant status and barriers to the formation of cerebral edema in a model of brain injury. The purpose of this study is to prove the role of Melatonin on the expression of MDA, MPO, VEGF and AQP-4 and histological injury in a rat model of the head injury.

Methods
This study was a true experimental study with randomization. This study uses a post-test only control group design, using experimental animals Sprague Dawley strain Rattus norvegicus, male, aged 10 -12 weeks, and weight of 300 grams. Model of brain injury according to Marmarou (1994).All parameters were observed histologically using hematoxilen-eosin staining and immunohistochemistry, using antibodies specific to each protein, MDA, MPO, VEGF and AQP-4. Observation and calculation of the results of immunohistochemical studies.

Results
In this study, histological observation number of immunocompetent cells and the diameter of the arteries. From the histological results showed that there is a significant reduction in the diameter of the arterial blood vessels of the brain injury tissue. In the immunohistochemical results, showed that there is a significant reduction of MDA and MPO expression amount of cells microglia brain injury tissue. Similarly, the expression of VEGF and AQP-4 BBB of rat brain injury tissue showed a significant reduction inhibitor after getting Melatonin. And by analyzing the relationship between the expression of VEGF by AQP-4 appears there is a positive correlation.

Conclusion
Melatonin is a potent scavenger hydrogen peroxide, which is a co-substrate of MPO, thereby reducing the production of MPO. VEGF is involved in the regulation of AQP4 in the incidence of head trauma. Reported that VEGF is co-localization with AQP4 at the Blood Brain Barier disruption. Decreased expression of VEGF by Melatonin, often associated with its ability to interfere with VEGF transcriptional. Significantly decreased expression of VEGF can be expressed positively
correlated to decreased expression of AQP-4.

**Keyword:** Brain Injury, MPO, VEGF, AQP4, MDA, BBB, Microglia, Melatonin.

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**Effect of Orally Administered GPX Mimetic Towards GPX and MDA Blood Level and OAEs Result in Acoustic Trauma Risk**

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**Introduction**

Excessive noise exposure may cause oxidative stress to the inner ear structure, resulting in AT. Oxidative stress was characterized by increasing of MDA decreasing of GPx enzyme, and abnormal OAEs.

**Methodology**

Aim of this study was to determine the impact of GPx mimic to GPx and MDA level in blood, also OAEs value on soldiers with risk of AT due to explosion of Howitzer 105 artillery weapon. The design of this study was clinical trial pre and post design, randomized, double blind and placebo controlled, on 34 new recruit soldiers were trained to firing artillery weapon. Exposure group was given Ebselen SPI 1005 200mg, orally once daily, meanwhile control group was given sucrose. MDA and GPx level in blood and DPOAEs value was measured, before and after firing. The data was analyzed using NNT and significance value (p<0.05).

**Results**

The results of this study showed the number of AT risk in controle group based on DPOAEs test the controle group showed 47.1% abnormal, exposure group showed 100% normally, and this difference stastically significance (p<0.05).

The group which was given Ebselen showed increasing 82.4% erythrocyte GPx level (NNT, 95%CI=1.889 [1.159-3.016]; p=0.004), showed increasing 88.2% plasma GPx level (NNT=1.417; p<0.001), decreasing 100% erythrocyte MDA level (NNT= 2.125; p=0.01), showed decreasing 94.1% plasma MDA level (NNT=2.125; p=0.01), and resulting 100% in normally DPOAEs value (NNT= 2.125; p=0.01).

**Conclusion**

This study concluded that giving Ebselen SPI 1005 to soldiers with risk of AT, increasing GPx level in blood, decreasing MDA level in blood, and resulting normally DPOAEs.

**Keywords**

Acoustic trauma, Ebselen, GPx, MDA, Otoacoustic emission

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**The effect of Sleep Deprivation on Cardiac Function and Tolerance to Ischemia-Reperfusion Injury**

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Military personnel are exposed to sleep deprivation due to the nature of their jobs during both and peace times. Sleep disorder (SD) is strongly associated with elevated risk factors for cardiovascular disease. The aim of this study was to determine the effect of SD on basal hemodynamic functions and myocardial ischemia reperfusion (IR) injury in male rats. Rats were divided into two groups: Control and SD. Sleep disorder was induced in male rats by flower pot model for 4 days. Isolated hearts from both groups were perfused with Langendorff setup and exposed to 30 minutes of global ischemia followed by 45 minutes of reperfusion. Baseline and after IR values of left ventricular developed pressure (LVDP), heart rate (HR), and peak rates of positive and negative changes in left ventricular pressure (± dp/dt) were measured and compared. In the SD animals the baseline levels of LVDP (19%), + dp/dt (18%), and - dp/dt (21%), were significantly lower and HR was remarkably higher (32%). After ischemia, hearts from SD animals displayed a significant tachycardia together with a low hemodynamic function recovery compared to animals in the control group. We conclude that hearts from SD rats had less basal cardiac function and less tolerance to IR injury compared to control.

**Keywords:** Sleep Disorder, Ischemia-Reperfusion, Cardiac Function
Biomedical Countermeasures to Category A Biologic Agents

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Introduction
The threat of terrorist activity remains high throughout the world. Biologic agents have been used effectively in the past and continue to be a potential weapon with high morbidity, mortality, and an ability to disrupt society far beyond the local site of dissemination.

Methodology
Anthrax, botulism and smallpox are listed as Category A agents with a potential for weaponization. The risks posed by these biologic agents can be mitigated by effective countermeasures in pre-exposure, post-exposure and therapeutic settings.

Results
This presentation will review the potential threat and magnitude of effect, the biology and medical consequences of an accidental or intentional release of these agents.

Conclusion
Specific countermeasures to address these Category A agents will be reviewed including their safety and efficacy in the pre-, post-exposure and therapeutic scenarios.

Keywords
Biomedical Countermeasures, Bioterrorism, Diseases

On-line Hemodiafiltration Using a Citrate Dialysate: a New Technique for Regional Citrate Anticoagulation

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Introduction
Regional citrate anticoagulation (RCA) is an interesting alternative to prevent thrombosis of the extracorporeal blood circuit in hemodialysis patients at high risk of bleeding or with a heparin-induced thrombocytopenia. In this work, we will study the feasibility of an on-line hemodiafiltration technique using a citrate dialysate with reinjection of citrate, directly produced from dialysate, in pre-dilution on the arterial

Methodology
It is a prospective study performed on four chronic hemodialysis patients with contraindication to heparin. an on-line hemodiafiltration using a citrate dialysate without calcium. The reinjection solution was produced directly from the dialysate and re-infused in a predilutional mode at a flow rate of 80 ml / min. infusion of calcium gluconate on the venous return line was made with a flow rate of 11mmol/h. The duration of the sessions was set at 4 hours. The endpoints were the incidence of thrombosis on the extracorporeal blood circuit, of hypocalcemia, of electrolyte and acid-base disorders, and finally the clinical safety of the technique.

Results
A total of 78 sessions were conducted. The incidence of thrombosis was 4%; small clots in the venous trap in all cases. Only 9 cases of mild hypocalcemia at the end of the session were recorded. No cases of hypernatremia were recorded. A tendency to metabolic acidosis at the end of the session was noted in 8.1% of cases. Finally, the clinical tolerance was good in all cases.

Conclusion
On-line hemodiafiltration using a citrate dialysate seems an interesting technique in patients where anticoagulation with heparin is contraindicated.

Keywords
on line hemodiafiltration, regional citrate anticoagulation, citrate dialysate
Women Air Crew: Difficult for Pregnant?

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Introduction
To determine the pattern of menrual disorder of the women air crew and some factors that influence and impact their chances of being difficult to pregnant properly and safely.

Methodology
This article is part of my research, written back with some enhancement according to current knowledge about the development of menstrual disorder patterns women air crew and some of the factors that influence it.

Results
High workload and working conditions, the possibility can cause physiological effects such as impaired balance menstrual disorders. Research reveals of flight attendant who has experiance job stress and health factors that affect the cost of hypoxia risk. Work stress and mild hypoxia experienced due to excessive workload or because or tiring flight/long flight. Flight crew who are still actively flying in the age group 25-39 years, more experience menstrual disorders, and 21.74% flight attendant with a total working period of less than 5 years with the task to fly 14 legs every week to be disturbed menstrual disorders.

Conclusion
Due to the menstrual disorders, emotional reactions irritabilty, anxiety, confusion and headache as well as the psychological impact and the aquisition of the prolactine hormone elevation. Impact be reduced concentration, decreased level of alertness, fatigue and the possibility of a difficult pregnancy.

Keywords
WOMEN, AIR CREW, DIFFICULT PREGNANT
Correlation of Cholinesterase Levels with PSS and Atropine in Acute Organophosphorus Insecticide Poisoning

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Introduction
The severity of acute organophosphorus insecticide (OPI) poisoning is estimated according to the level of activity of acetylcholinesterase (AChE), clinical picture, total atropine used, and concentrations of OPI, if available. AChE inhibition does not uniformly correlate with cholinergic crisis. The objective was to determine if there is a correlation of the activity of AChE and BuChE with the degree of poisoning according to Poison Severity Score (PSS) and the total dose of atropine in acute OPI poisoning.

Methodology
Sixty-six patients were grouped according to PSS: no signs (PSS 0), mild (PSS 1), moderate (PSS 2), severe (PSS 3) and lethal poisoning (PSS 4). Serial measurements of AChE and BuChE were performed. Relevant clinical parameters and total atropine dose were recorded.

Results
Most of the patients were in the group with mild poisoning (30.3%), followed by severe (21.2%), moderate (19.7%) and fatal poisoning (12.1%). Levels of AChE and BuChE activity and PSS, as well as total atropine did not correlate significantly (Spearman’s Rho 0.495, 0.354 and 0.395, 0.981 respectively). Stronger association resulted from analysis using AChE and BuChE during 72 h and PSS, and PSS and total atropine (p < 0.001).

Conclusion
Direct correlation of the AChE and BuChE level at the admission and PSS was not found. However, serial determination of cholinesterase during 72 h showed stronger association with the degree of poisoning, the total atropine dose, rendering it as useful diagnostic parameter for OPI biological effects. Chemical structure of OPIs might have therapeutic implications and must be taken into consideration.

Keywords
organophosphorus insecticide poisoning, acetylcholinesterase, butyrylcholinesterase, poison severity score, atropine

Operational Preparedness: Rabies Immune Response by Intradermal Rabies Pre-exposure Vaccination in Belgian Armed Forces.

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Introduction
Low-dose Intradermal (ID) Pre-exposure Vaccination Schedules has been proven economical, safe, immunogenic and long-lasting. All ID regimens are off-label. Effective Pre-exposure Vaccination reduces post-exposure procedures (PEP) noteworthy from a 28 day PEP with Rabies Immunoglobulins (RIG) to a 2 day PEP without RIG.

Methodology
Neutralizing Antibody Titers against rabies virus were evaluated with the Rapid Fluorescent Focus Inhibition Test. A titer ? 0.5 IU/ml is considered to be boostable life-long.

Results
More than 9000 soldiers are intradermally vaccinated against rabies virus in the Belgian Army. In two large retrospective studies in 881 and 500 Belgian soldiers, a sufficient initial antibody response of ? 0.5 IU/ml over years for two different rabies vaccination schedules (day 0, 7, 28, 365 and day 0, 7, 28) was shown in 100% to 82% of subjects respectively. Recent preliminary data of two prospective randomized clinical trials on Simplifying the Rabies Pre-exposure Schedule reducing from 28 days to 7 days and further to 1 day (in 500 and 134 Belgian soldiers respectively) show that 100% to 77.5% of subjects respectively had a sufficient initial antibody response of ? 0.5 IU/ml after three and two visits compared to an one single visit pre-exposure rabies vaccination.

Conclusion
The immunity provided by these ID series is immunogenic and robust and should be considered as an investment once in a lifetime in operational troops. Abbreviated schedules are very promising and the preparation time could be reduced to an one single visit pre-exposure rabies vaccination in the future.
Development of Regional Guidelines of Medical Management of CBRN Incidents:

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Introduction
CBRN incidents are emerging as a possible threat in the region, especially with the new developments regarding civil wars and terrorist activities in the courtiers of the region. CBRN incidents are emerging as a possible threat in the region, especially with the new developments regarding civil wars and terrorist activities in the courtiers of the region.

Methodology
Regional survey has been conducted to evaluate the presence, level, and capabilities of national and regional medical guidelines to deal with CBRN incidents.

Results
There was no regional guidelines, national guidelines are present in few countries (3) which was part of larger scale guidelines for management of CBRN incidents, none of them were medical oriented nor hospital based management.

Conclusion
There is a need to develop a guide for clinical management and health protection in Chemical, Biological, Radiological and Nuclear (CBRN) incidents to help health care professionals in emergency departments, and in hospital services to deal with such incidents and also to includes health care professionals in other specialties, including primary care and public health, emergency planners, trainers, and emergency service personnel.

Key words
of Regional Guidelines, CBRN, Pan Arab regional survey

Study knowledge, attitude and practice (KAP) police Rescuers in disaster situations on NBC (nuclear, biological, chemical) in police medical center in Mashhad.

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Background
Regarding enemy threats of using chemical, biological and nuclear weapons, the fact of knowing how to response and how to protect people against these factors is really important, particularly for police relief personnel in times of disaster. This study aimed to determine knowledge, attitude and practice of police relief staffs in 2011 on NBC in police medical center of Mashhad.

Materials and Methods
This descriptive analytical study was carried out on the second organized police personnel (aid) workers, including 94 women and 164 men through questionnaires at the police medical center in Mashhad. The data were analyzed by software SPSS 16.

Results
The results showed that about the knowledge of NBC, 26/5% of relief personnel had poor knowledge, 63/9% had average knowledge and 9/6% had good knowledge. In relation to attitude of NBC, 52/4% had a negative attitude, 36/4% had moderate attitude and 11/2% had a positive attitude. About practice, 37/1% had poor performance, 49% had average performance and 13/9% had good performance. As well as between knowledge and practice there was no significant relationship between knowledge and attitude, but there was a significant relationship between attitude and practice. (P<0/05).

Conclusion
Considering the fundamental role of police relief personnel in times of chemical, biological and nuclear disasters, increasing their knowledge, attitude and practice skills to do properly behaviors of protection and rescue and to control.
The Impact of Vaccination against Meningococcal Meningitides in Islamic Republic of Iran Military Forces

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Background
Meningococcal meningitides could be seen in overcrowding area like military barracks and cause high level of mortality and morbidity. The aim of this study was to determine the role of vaccination as intervention in order to prevention the meningococcal meningitides infection.

Methods
In the cross-sectional study, the document related in three-projects including: the incidence of mortality in high risk population, intervention of control the disease by vaccination and its efficiency in the conscripts. In addition, epidemiological evidence of the disease and advanced laboratory method was surveyed.

Results
The result of the research indicated that, the vaccination and time of shot has been succeed in order to protect the at risk group with high level of immunity. Nevertheless, the vaccination accompanied with management of (compulsory vaccination at least 2 weeks before arriving to camps) at risk soldiers caused the prevalence of mortality come down lower than 0.02% in cases by the end of 2012. Sporadic cases were the result of complement deficiency in patients and also late vaccination (2-3 days before arriving to the camps). Based on this research the most patients who were at risk of meningitides were retried personals and their relative families respectively. In addition, 35% of bacterial meningitides was due to S.pneumoniae.

Discussion
The results of this research indicated that the prevalence of mortality from 106 cases in 2001 come down to nearly zero in 2012 which is related to new intervention of meningococcal meningitides control by vaccination and it’s significant impact in order to reduce the infection. While, the incidence of pneumococcal meningitides increased. However, the findings of this study indicate that the consistent time of vaccination could be effective factor in order to prevent the disease.

Key words
Vaccination, Meningococcal meningitis, conscript, I R of Iran.
Efficiency of homogenous and heterogeneous filters for radioactive aerosols

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Background
Aerosols produced by nuclear processes are radioactive with large ranges. Collection efficiency of air filters is an important parameter in removal of radioactive aerosols. In this study, Collection efficiency and quality factor of homogenous and heterogeneous filters at different flow rates were investigated.

Materials and Methods
The cascade impactor sampler was used to determine the size-activity distributions of radioactive aerosols. Liquid Scintillation spectrometer was used to measure the activity of particles. Nanofiber mats, HEPA, and ULPA filter efficiencies were measured using nano-sized sodium chloride aerosols in the range of 70 - 700 nm at different flow rates in the range between 1.58 - 5 m.s\(^{-1}\) according to the United States Atomic Energy Commission standards. Desired particles were generated by electrospray aerosol generator. Condensation particle counter was used to measure the particle number concentrations before and after the filtration and to determine the performance of filters.

Results
The results showed that radioactive particles had extended size distribution. Maximum activity was associated with accumulation-mode particles with diameters less than 400 nm and activity rate of 1517 count per minute. The maximum permeability of filters was related to 100 nm particles which were considered as most penetrating particle size in this medium. The quality factor is the best parameter to compare the efficiency of filters.

Conclusion
The results indicated that nanofiber mats had higher quality factor than business filters such as HEPA and ULPA filters and can be used in respiratory masks in order to eliminate particles with different size ranges such as nano-sized particles radioactive.

Keywords
Filter, radioactive, removal, nuclear process