1. SCIENTIFIC CONFERENCES

**Author:** Dr. Eman M. Zahran  
**Department:** Nursing  
**Participants:** Mr. Mohannad Al–Mossa & Dr. Amal Attia  
**Conference Name:** The 15th Alexandria Anesthesia & Intensive Care Conference  
**Date of the Conference:** 20 – 22 September 2011  
**Place of the Conference:** Bibliotheca Alexandrina, Egypt  
**Research Title:** Risk Factors of Work Related Musculoskeletal Disorders (MSDs) Among Critical Care Nurses  
**Research Abstract:** In health care, several groups of professionals can be distinguished, each with its own occupational health problems. Critical care nurses are exposed to a variety of hazards in intensive care environment. Several studies associate risk factors in nursing with musculoskeletal complaints. Therefore, this study was conducted to determine the work–related risk factors for musculoskeletal complaints (MSCs) among critical care nurses. Two tools were developed to collect the required data; The musculoskeletal complaints (MSCs) among critical care nurses questionnaire, and work–load physical, emotional and environmental risk factors. Study findings indicate that the prevalence of low back pain and feet/ankles pain was the highest. There were significant associations between low back pain and some manual handling activities and tasks (Lifting patient – Reposition patient – Transfer patient). Finally, it is recommended to encourage nurses to initiate occupational health and safety projects in health care setting, especially hospitals.

**Author:** Dr. Farah Naja  
**Department:** Nutrition & Dietetics  
**Participants:** Mrs. Leila Itani  
**Conference Name:** World Diabetes Congress (IDF), Dubai 2011  
**Date of the Conference:** 4 – 8 December 2011  
**Place of the Conference:** World Trade Center, Dubai–UAE  
**Research Title:** Association between Dietary Patterns & the Risk of Metabolic Syndrome among Lebanese Adults  
**Research Abstract:** This study aims mainly to evaluate the association between dietary patterns and the metabolic syndrome (MetS) and its metabolic abnormalities among Lebanese adults, using data from a national nutrition survey.  
**Methods:** A cross–sectional analysis involving adults aged ≥18 years (n=323) with no prior history of chronic diseases was conducted. Participants completed a brief sociodemographic and 61–item food frequency questionnaire. Anthropometric measurements and fasting blood samples were also obtained. The International Diabetes Federation criteria were used to classify study participants with the metabolic syndrome. Dietary patterns were identified by factor analysis. Multivariate logistic regression analysis was used to evaluate the associations of extracted patterns with MetS and its metabolic abnormalities.
Results: Out of 323 participants, 112 (34.6%) were classified as having MetS. Three dietary patterns were identified: “Fast Food/Dessert,” “Traditional Lebanese,” and “High Protein.” Compared with participants in the lowest quintile of the Fast Food/Dessert pattern, those in the highest quintile had significantly higher odds for MetS (OR, 3.13; 95% CI:1.36–7.22) and hyperglycemia (OR, 3.81; 95% CI:159–9.14). Subjects with the highest intake of the High Protein pattern had an increased risk for hypertension (OR, 2.98; 95% CI:1.26–7.02). The Traditional Lebanese pattern showed no association with MetS or its components.

Conclusions: The findings of this study demonstrate a positive association of the Fast Food/Dessert pattern with MetS and hyperglycemia among Lebanese adults. These results may guide the development of improved preventive nutrition interventions in this adult population.

2. PUBLISHED RESEARCHES

Author: Dr. Eman M. Zahran
Department: Nursing
Participants: Dr. Eman E. Taha
Research Title: Integrating Evidence Based Nursing into the Critical Care Nursing Course: Challenges from Students' Perspectives
Research Abstract: In critical care settings, there is a considerable need for highly experienced and knowledgeable nurses making efficient clinical decisions. Utilization of evidence based nursing (EBN) guides clinical decisions and practices. Therefore, it is important for critical care nurses to receive the necessary education to practice EBN. This begins with the ability to ask a clinical question and search for evidence answering it properly, which were the focus of teaching in this study. Therefore, this study aims to identify challenges to integrating EBN into the critical care nursing (CCN) course from students' perspectives. Undergraduate students who were enrolled into the CCN course on January 2010, Faculty of Nursing, University of Alexandria, were included in the study. Different teaching/learning strategies fostering adult learning were utilized to teach EBN related activities. A questionnaire was developed to identify challenges to integrating EBN into the course. Study findings indicated that about two thirds of total students have a moderate level of negative attitude to integrating EBN in the critical care practice. Most of the students have moderate challenges to integrating activities of EBN into the CCN course. Two thirds of the students indicated that challenges related to course coordination are moderate. In relation to practicing EBN related activities, formulating a focused clinical question was moderately or highly challenging to the students. Searching for research evidence was moderately challenging to more than half of students. Time constraint while searching the internet was the highest top reported challenge. In conclusion, integrating EBN into the CCN course was challenging to students in different levels. Most of the challenges were related to a lack in background research knowledge and skills and time constraints. Therefore, the current study recommends that students have to receive their research course as one of the fundamental courses. In addition, more time management is required, for the arrangement of different courses schedules and adequate time to practice free learning activities should be provided.
Research Title: Barriers & Facilitators to Research Utilization in Critical Care Settings

Research Abstract: Basing critical care nursing practice on best research evidence is a key issue for the high standard quality care in critical care settings. However, it has been identified that there is a research–practice gap. Thus, the current study aims to identify barriers and facilitators to research utilization (RU) in critical care settings as perceived by the critical care nurses. This study was conducted at eight intensive care units (ICUs), Main University Hospital, University of Alexandria. Two hundred nurses who were working in these ICUs over the period from 6 / 12 / 2009 to 10 / 1 / 2010 were included in the study. Barriers and facilitators to research utilization questionnaire were used to identify barriers and facilitators to RU in critical care settings. Study findings show that RU is challenged in critical care setting by several barriers. A number of facilitators to RU are suggested by the research findings to overcome these barriers. RU is affected by several factors, such as the nurses' age, experience, residence, and level of English language. Therefore, improving the nurses' research related knowledge and skills, together with adequate organizational support from the critical care setting to RU, are the main to strategies recommended to overcome barriers to RU in ICUs.

Research Title: Nurses' Related Factors Influencing the Use of Physical Restraint in Critical Care Units.

Research Abstract: Although physical restraints are used commonly to maintain the safety of critically ill patients, the use of physical restraints is associated with many adverse effects. Therefore, several attempts have been made to identify and control factors affecting restraint utilization in critical care units (CCUs). This study aims to identify nurses' related factors influencing the use of physical restraints in CCUs. This study was conducted in three of the CCUs of Alexandria Main University Hospital. Fifty critical care nurses, working in the above mentioned settings, who apply physical restraints, were recruited sequentially in this study. Fifty patients who were restrained and assigned to the observed nurses were included in this study. Patients who were restrained for a period of less than two hours were excluded. Two tools were used to collect the required data; nurses' restraint performance checklist, and nurses' related factors influencing the use of physical restraint questionnaire. It can be concluded from this study that older nurses and those with higher qualification and years of experience have better restraint related performance than others. Nurses' knowledge and performance are in need for improvement. Therefore, it is recommended to conduct in-service training programs for nurses working in CCUs on restraint utilization and restraint alternatives. The hospital should develop evidence based guideline on physical restraining to be available for all nurses and physicians to follow.
**Author:** Dr. Eman M. Zahran  
**Department:** Nursing  
**Participants:** Dr. Ahmed A. Abd El–Razik  
**Journal / Periodical Name:** Journal of American Science (2011). 7(8), 23–32  
**Research Title:** Tracheal Suctioning with Versus without Saline Instillation  
**Research Abstract:** The primary goal of tracheal suctioning is to maintain a patent airway. It is considered as one of the most common procedures in critical care areas. Normal saline instillation into an artificial airway prior to suctioning is utilized by many health practitioners. However, there are conflicting views about its safety. This study was conducted in two phases. Phase “1” aims to determine how often normal saline is used during tracheal suctioning, and determine nurses and physicians' knowledge regarding advantages and disadvantages of normal saline instillation (INS) before suctioning. Phase “2” aims to compare between the effects of suctioning with saline versus suctioning without saline on a number of physiological response parameters. This study was conducted at Causality Care Unit, and General Intensive Care Unit (ICU), Main University Hospital, University of Alexandria; including. Ninety two nurses and 16 physicians working in the previously mentioned settings were included in the first phase of the study, while 26 adult critically ill patients were included in the second phase of the study. Two tools were used to collect required data; tool (I) tracheal suctioning questionnaire used to collect data for phase “1” and tool (II) physiological response parameters assessment sheet used to collect data for phase “2”. Based on the findings of this study, it can be concluded that nurses and physicians frequently use saline before suctioning. A considerable number of them recognize the most common advantages and disadvantages to the INS. In relation to the comparison between suctioning with and without INS, this study shows that INS carries out several risks including significant elevation in PaCO2 immediately after suctioning and reduction in oxygen tension and saturation, 5 minutes after suctioning. So, nurses and physicians have to be aware on these disadvantages of INS. In addition, alternative measures facilitating liquefying secretion and its removal have to be utilized instead of INS.

---

**Author:** Dr. John J. Haddad  
**Department:** Medical Laboratory Technology  
**Journal / Periodical Name:** Cellular Immunology (2011). 270(1), 53–61  
**Research Title:** A Redox Microenvironment is Essential for MAPK–Dependent Secretion of Pro–Inflammatory Cytokines: Modulation by Glutathione (GSH/GSSG) Biosynthesis & Equilibrium in the Alveolar Epithelium  
**Research Abstract:** The characterization of oxidant (glutathione)–dependent regulation of MAPKp38/RK–mediated TNF–δ secretion was undertaken in vitro, and the ramifications of the influence of a redox microenvironment were unraveled. Intermittent exposure of alveolar epithelial cells (FATEII) to LPS (endotoxin) transiently induced the expression of MAPKp38/RK. This upregulation was associated with the activation of MAPKAP–K2, manifested by the specific phosphorylation of heat–shock protein (Hsp)–27. Selective blockading of the MAPKp38/RK pathway using the pyridinyl imidazole SB–203580 abrogated the LPS–dependent release of TNF–δ. N–Acetyl–L–cysteine (NAC), a precursor of glutathione, reduced TNF–δ secretion and increased [GSH]. Conversely, L–buthionine–(S,R)–sulfoximine (BSO), an irreversible inhibitor of μ–glutamylcysteine synthetase (μ–GCS), the rate–limiting enzyme in the pathway mediating
GSH biosynthesis, augmented the secretion of TNF–α and [GSSG] accumulation. Whereas NAC abrogated the phosphorylation of MAPKp38/RK, BSO reversibly amplified this effect. Furthermore, exposure of FATEII cells to the exogenous oxidants X/XO and H2O2 induced a correlative upregulation of the pro–inflammatory cytokines IL–1β, IL–6 and TNF–α relative with key glutathione–related enzymes, closely involved with maintaining the cyclic GSH/GSSG equilibrium. These results indicate that a redox microenvironment plays a major role in regulating MAPK– dependent production of cytokines in the alveolar epithelium.

Author: Dr. John J. Haddad
Department: Medical Laboratory Technology
Research Title: NF-B Cellular & Molecular Regulatory Mechanisms & Pathways: Therapeutic Pattern or Pseudoregulation?
Research Abstract: As fascinating a molecule as it can potentially get, nuclear factor–KB (NF–KB), a regulatory transcription factor, can be intriguing. NF–KB is a dimeric complex that controls the transcription of essential genes. NF–KB is involved in a variety of responses that play a pivotal role in regulating the immune response to inflammation, infection, and nociception. Aberrant regulation of NF–KB has been linked to certain conditions such as cancer, inflammatory and autoimmune diseases, septic shock, viral infection, and improper immune responses. Cellular and molecular regulatory mechanisms and pathways involving the regulation of this transcription factor are being unraveled. Therapeutic approaches emerged underlying the regulatory impact of oligonucleotides/decoys and other non–decoy inhibitors on NF–KB modulation. NF–KB decoy is a patented oligonucleotide that specifically blocks NF–KB, a transcription factor that activates pro–inflammatory genes. Inflammatory diseases consist of a diverse group of diseases including skin diseases like dermatitis, orthopedic diseases like arthritis, airway diseases like asthma, and inflammatory bowel disease, which NF–KB, a transcription factor, have a critical role to play. NF–KB decoy is a patented oligonucleotide that specifically blocks NF– KB, a transcription factor that activates pro–inflammatory genes. Inflammatory diseases consist of a diverse group of diseases including skin diseases like dermatitis, orthopedic diseases like arthritis, airway diseases like asthma, and inflammatory bowel disease, which NF–KB, a transcription factor, have a critical role to play. In this synopsis, the role of decoy therapy is emphasized in understanding the crucial influence of this transcription factor, and not only the efficacy of this therapeutic approach but also its necessity and contraindications are weighed.

Author: Dr. John J. Haddad
Department: Medical Laboratory Technology
Research Title: The Immunopharmacologic Potential of Semaxanib & New Generation Directed Therapeutic Drugs: Receptor Tyrosine Kinase Regulation with Anti–Tumorigenesis/Angiogenesis Properties
Research Abstract: Molecular signaling of messages emanating from cellular membranes through receptor tyrosine kinases (RTKs) is a major mechanism for intercellular communication and transduction during development and metabolism, as well as in disease– associated
processes. The phosphorylation status and signaling activity of RTKs are determined by a
dynamic equilibrium of the activity of both RTKs and protein tyrosine phosphatases (PTPs). RTKs
are essentially a class of cell–surface receptors for growth factors and other extracellular
ligands, the most conspicuous perhaps are members of the vascular endothelial growth factor
(VEGF) gene family which plays a fundamental role in the growth and differentiation of
vascular, as well as lymphatic endothelial cells. In particular, VEGF is a major regulator of
normal (physiologic) and abnormal (cancerous) angiogenesis including that associated with
tumors and cancer. Blockers/inhibitors and regulators of RTKs are indeed promising cancer
interventions; their specific mechanisms are yet to be unraveled. This synopsis elaborates on
breakthroughs/advances and current concepts of RTK regulation, further shedding light on
exploring the role of potential regulators, particularly the RTK inhibitor Semaxanib, and the
mechanisms associated with tumorigenesis in an attempt to understand a potentially
alleviating pharmacologic therapeutic intervention. This survey also tackles the loopholes and
shortcomings of the aforementioned inhibitory role of Semaxanib, especially its inefficacy and
ultimate discontinuation of relevant clinical trials.

Author: Mrs. Leila Itani, Dr. Farah Naja, Dr. Nahla Hwalla, Dr. Lara Nasreddine, Dr. Abla Sibai &
Mrs. Nada Adra

Department: Nutrition & Dietetics


3

Research Title: Association between Dietary Patterns & the Risk of Metabolic Syndrome among
Lebanese Adults

Research Abstract: This study aims mainly to evaluate the association between dietary patterns
and the metabolic syndrome (MetS) and its metabolic abnormalities among Lebanese adults,
using data from a national nutrition survey. Methods: A cross–sectional analysis involving adults
aged ≥18 years (n=323) with no prior history of chronic diseases was conducted. Participants
completed a brief sociodemographic and 61-item food frequency questionnaire. Anthropometric
measurements and fasting blood samples were also obtained. The International Diabetes Federation
criteria were used to classify study participants with the metabolic syndrome. Dietary patterns were identified by factor analysis. Multivariate logistic regression analysis was used to evaluate the associations of extracted patterns with MetS and
its metabolic abnormalities. Results: Out of 323 participants, 112 (34.6%) were classified as
having MetS. Three dietary patterns were identified: “Fast Food/Dessert,” “Traditional
Lebanese,” and “High Protein.” Compared with participants in the lowest quintile of the Fast
Food/Dessert pattern, those in the highest quintile had significantly higher odds for MetS (OR,
3.13; 95% CI:1.36–7.22) and hyperglycemia (OR, 3.81; 95% CI:159–9.14). Subjects with the
highest intake of the High Protein pattern had an increased risk for hypertension (OR, 2.98;95%
CI:1.26–7.02). The Traditional Lebanese pattern showed no association with MetS or its
components. Conclusions: The findings of this study demonstrate a positive association of the
Fast Food/Dessert pattern with MetS and hyperglycemia among Lebanese adults. These results
may guide the development of improved preventive nutrition interventions in this adult
population.
Author: Mrs. Leila Itani, Dr. Farah Naja, Dr. Nahla Hwalla, Dr. Lara Nasreddine, Dr. Abla Sibai, Dr. Marie Calire Chameih & Mrs. Nada Adra

Department: Nutrition & Dietetics

Journal / Periodical Name: Public Health Nutrition DOI:10.1017/S136898001100070X

Research Title: Dietary Patterns & their Association with Obesity & Sociodemographic Factors in a National Sample of the Lebanese Adults

Research Abstract: Objective: To identify and characterize dietary patterns in Lebanon and assess their association with sociodemographic factors, BMI and waist circumference (WC). Design: This study is conducted by a cross-sectional population-based survey. In a face-to-face interview, participants complete a brief sociodemographic and semiquantitative FFQ. In addition, anthropometric measurements were obtained following standard techniques. Dietary patterns were identified by factor analysis. Multivariate linear regression was used to assess determinants of the various patterns and their association with BMI and WC. Setting: National Nutrition and Non-Communicable Disease Risk Factor Survey(2009), Lebanon. Subjects: A nationally representative sample of 2048 Lebanese adults aged 20–55 years. Results: Four dietary patterns were identified: ‘Western’, ‘Traditional Lebanese’, ‘Prudent’ and ‘Fish and alcohol’. Factor scores of the identified patterns increased with age except for the Western pattern in which a negative association was noted. Women had higher scores for the prudent pattern. Adults with higher levels of education had significantly higher scores for the prudent pattern. The frequency of breakfast consumption was significantly associated with scores of both traditional Lebanese and prudent patterns. Multivariate-adjusted analysis revealed a positive association between scores of the Western pattern and the BMI and WC of study participants. Conclusions: The findings show the presence of four distinct dietary patterns in the Lebanese population which are associated with age, sex, education and meal pattern. Only the Western pattern was associated with higher BMI.

3. RESEARCHES ACCEPTED FOR PUBLICATION:

Author: Mrs. Leila Itani, Dr. Farah Naja, Dr. Nahla Hwalla, Dr. Lara Nasreddine & Dr. Hani Dimassi

Department: Nutrition & Dietetics

Journal / Periodical Name: Lebanese Medical Journal

Research Title: Dietary Patterns on CVD Prevention & Management: Review of Evidence & Recommendations for Primary Care Physicians in Lebanon

Research Abstract: This paper aims to discuss the advantages of using the dietary pattern approach in evaluating the role of diet in cardiovascular diseases (CVD) prevention and management and to report on the association between major dietary patterns and CVD risk factors among Lebanese adults. The significance of this type of research to primary care physicians is also highlighted. The dietary pattern approach overcomes the inconsistent findings of single nutrient analysis in evaluating diet–disease associations, takes into consideration the synergistic effects of nutrients, and produces culture specific recommendations. Using data from the national Nutrition and Non-Communicable Disease Risk Factor Survey, the association of dietary patterns with CVD risk factors among Lebanese adults is appraised. Two major
dietary patterns were identified: Western pattern, characterized by high intake of fast food sandwiches, desserts, and carbonated beverages and the Traditional Lebanese pattern, characterized by high intakes of fruits and vegetables, olives and olive oil, and traditional dishes. Only the Western pattern was associated with increased risk of obesity (abdominal obesity), hyperglycemia and the metabolic syndrome. These findings demonstrate the valuable results that can be obtained using the dietary patterns approach in evaluating the association between diet and CVD risk factors and provide evidence that this approach can be used as a tool to push for desirable dietary changes in the country.

*Key words: Dietary patterns, cardiovascular diseases, family care physicians, Lebanon.*

### 4. RESEARCH PROJECTS LOCALLY OR INTERNATIONALLY FUNDED

**Author:** Dr. John J. Haddad  
**Department:** Medical Laboratory Technology  
**Research Title:** The Role of MAPK Signaling Pathways in Determining Cellular Death or Survival in Hypoxia: Emerging Pharmacological Targets for Therapeutic Intervention.  
**Research Abstract:** Regulatory mechanisms controlling cell fate involve intracellular protein kinases that can transduce signals detected on cell membranes into changes in gene expression. Most prominent amongst signal transduction pathways that control these events are the mitogen–activated protein kinase (MAPK) cascades. MAPK signaling in neurons help determine cell fate following insults such as hypoxia or ischemia. Whether the activation or suppression of one or more components of the signaling modules may enhance cell survival or mediate cell death is currently unknown. The goal of this project is, therefore, to identify which MAPK signaling pathways are associated with surviving hypoxia and which are involved with cell death. In particular, the following hypotheses will be tested: i) MAPKJNK and MAPKp38 activation is associated with a neuro–injurious response mediated by hypoxia; ii) MAPKERK activation is associated with a neuroprotective response mediated by hypoxia; and iii) Sustained expression of the dominant mutated genes of either module differentially regulates cell survival/death in response to hypoxia. This research would help clarify major gaps in our knowledge about the balance between survival and death after hypoxic insult and point to new targets for neuroprotection.

**Funding Body:** The National Council for Scientific Research (CNRS) 1 March 2012 – 1 March 2013