



نقابة صيادلة لبنان  
ORDER OF PHARMACISTS OF LEBANON

## ABSTRACTS

Under the High Patronage of His Excellency  
the President of the Lebanese Republic  
**General Michel Aoun**

The Lebanese Order of Pharmacists organizes  
its 25<sup>th</sup> Annual Congress under the theme

19.5  
CREDITS

**The Seven-Star Pharmacist:**  
Shaping the Future of Pharmacy in Lebanon

**الأدوار السبعة للصيدلي:**  
بناء مستقبل مهنة الصيدلة في لبنان



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Hilton Beirut Habtoor Grand

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**25**  
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الأدوار السبعة للصيدلي



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## EMIRATES HALL

### Souheil Hallit. PharmD, MSc, MPH, PhD candidate

Director of the Research Department at the Psychiatric Hospital of the Cross



#### **Allergic Diseases, Smoking and Environmental Exposure Among University Students**

Smoking habits among university students in Lebanon are not clearly identified, and studies correlating these habits to asthma and allergic diseases are lacking. The primary objective of this study is to assess the asthma and allergic diseases' predictors, particularly cigarette and/or water pipe smoking and other environmental exposures, among university students. A second objective is to evaluate the potential role of these predictors as correlates of health-related self-assessment.

A cross-sectional study, using a proportionate cluster sample of 3000 Lebanese students in both public and private universities, was conducted between January 2015 and December 2015.

The number of smokers at home, living close to an electricity generator and exposure to sand and dust significantly increased the odds of having asthma or allergic diseases by two and three times respectively ( $p=0.015$ ; OR= 1.183; CI 1.033-1.356;  $p=0.01$ ; OR= 2.062; CI 1.193-3.566;  $p=0.001$ ; OR= 3.558; CI 1.684-7.517 respectively). Having tried cigarette smoking and having an air conditioner inside the means of transportation would decrease the odds of having asthma or allergic diseases by around 68% and 56.1% respectively ( $p=0.009$ ; ORa= 0.320; CI 0.136-0.753;  $p=0.01$ ; ORa= 0.439; CI 0.234-0.822 respectively).

Although students with asthma or allergic diseases tended to avoid all identifiable atopic risk factors, lesser known environmental factors such as living close to an electricity generator, exposure to sand and dust, and exposure to car exhaust fumes were associated with a higher risk of asthma and a decrease in health related self-assessment. This study also showed that students with asthma and allergic diseases smoked cigarettes and water pipe at similar percentages, but cigarette smokers had a lower health related self-assessment.

### Marwan Akel. PharmD, MPH, PhD Candidate

Clinical Assistant Professor at the Lebanese International University



#### **Health Behavior in School Aged Children in Lebanon**

The HBSC research network is an international alliance of researchers that collaborate on the cross-national survey of school students: Health Behavior in School-aged Children (HBSC). The HBSC collects data every four years on school aged boys' and girls' health and well-being, social environments and health behaviors. These years mark a period of increased autonomy that can influence how their health and health-related behaviors develop. HBSC focuses on understanding young people's health in their social context – where they live, at school, with family and friends. Behaviors established during adolescence can continue into adulthood.

HBSC now includes more than 47 countries and regions across the globe.

To assess the attitude of Lebanese adolescents towards different daily habits, including lifestyle, diet, physical activity, smoking, alcohol intake, socio-economic statuses and self-image...

This is a cross-sectional study conducted until April 2017. Four Lebanese regions



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(Mouhafaza) were involved in the study: Mount Lebanon, Bekaa, Beirut and North. In total, around 7000 adolescents from 30 private and public schools in Lebanon, were involved in the study. The students completed a survey of 60 questions by themselves. School aged children between 11 and 18 years were included. In addition, school administrators completed a questionnaire on school-related health activities.

## Elsy Ramia. PharmD, MPH, BCPS

Clinical Assistant Professor at the Lebanese American University - School of Pharmacy

### Strategies and Tools of Medication Safety

This presentation provides a brief overview of tools and strategies that can be adopted in healthcare settings to enhance medication safety.

Culture is the most significant influence on patient and medication safety. Patient safety culture is the extent to which an organization's culture supports and promotes patient safety. A "Just Culture" is a necessary component of a culture of safety. Safety culture is generally measured by surveys of providers at all levels.

Key Performance Indicators (KPIs) are quantitative tools to assess processes and outcomes of care and monitor the quality and appropriateness of care being provided. Indicators of medication safety are an important sub-set of healthcare indicators, and they fall under three categories: Structure, Process, and Outcome indicators.

Automation has a significant role in medication error reduction, as it reduces reliance on memory, and helps standardize medication dispensing and administration. Automation includes the implementation of a computerized physician order entry (CPOE), the use of automated dispensing devices, and the use of bar-code technology for administration. The main challenge for implementation remains the availability of resources.

Medication safety is a fundamental responsibility of all members of the profession of pharmacy. Pharmacists are uniquely qualified to fill the roles and meet the responsibilities of the medication safety leader in hospitals and health systems."



## Hayat Azouri Tannous. PharmD, PhD

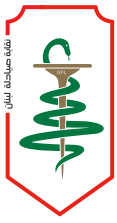
Professor and Head of the Toxicology Department at St Joseph University (USJ) Faculty of Pharmacy

### Les perturbateurs endocriniens

In this presentation, we propose to answer the following questions concerning the endocrine disruptors and their toxic effects on human's health:

- What are the endocrine disruptors?
- Where can we find the endocrine disruptors?
- Why are we concerned?
- Who is at risk?
- Why these toxic chemicals are present in the sector of health?
- What can we do?





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## Elie Wakil. PharmD

Lecturer, Human Relations

### **Leading in Transformation: One Step Ahead**

When you lead organizational transformation in the same old way, you will get the same old results. Over two-thirds of organizational change efforts fail to deliver their intended ROI (Return On Investment).

Leading in transforming your organization requires a broader perspective.

Most focus on the strategy, structure, policies, processes, products, services and technology.

They focus on getting the right design solution and neglect or minimize the work required to transform mindset, behavior and culture. And that is the certain path to failure.



## Bertrand Bolduc. BPharm, MBA, ICDD

President at L'Ordre des pharmaciens du Québec

## Kira Azar. BPharm, ARCT

Chief-Pharmacist at the François Jean Coutu pharmacy – Montreal / Canada

### **The Role of the Canadian Pharmacist: Going Way Beyond Drug Distribution**

In Canada, the role of the pharmacist is evolving rapidly and goes today beyond the simple act of dispensing medications - perceived as a low-value activity - into a new extended clinical role. The pharmacist ought to offer today new added value to the government, to third-party payers and above all, to his patients, in order to maintain a relevant role in the health care system, that of the expert of medication management. What can the pharmacist do in Canada?

The role of the pharmacist has recently expanded to include many innovative activities such as the prescription of drugs for minor ailments and for conditions not requiring a diagnosis, medication reviews, ordering and following-up on lab tests, renewing and adapting prescriptions are also possible. Moreover, most of the Canadian provinces have approved pharmacists to inject vaccines and to administer inhalers. Many of these new services are now subject to payment by private and / or public payers.

Several colleges of pharmacists are planning on developing other new services notably point-of-care testing including pharmacogenomics testing.

In order to free the pharmacist to spend more time with patients, colleges have furthermore increased the responsibilities of pharmacy technicians into the new role of Registered Pharmacy Technician (RPT). This enhances the function of pharmacy assistants to be more likely involved in the drug preparation, and to some extent, in the verification of drug dispensing.

In this presentation, we will review the new activities of the pharmacist and discuss how the future of the pharmacy profession can be envisioned.





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## Amal Mhanna. MD, Dermatologist

American University of Beirut Medical center

### **Hidradenitis Suppurativa: Unveiling a Hidden Disease**

Hidradenitis suppurativa (HS) is a chronic, inflammatory, debilitating skin disease. HS has a great impact on the patient's quality of life, deeply affecting social, working, and psychological aspects. The disease is multifactorial, with interplay between multiple genetic, immunological, behavioral, and endocrine factors playing a key role in its development.

HS diagnosis generally occurs after an average 7-year delay. Early diagnosis is very important for HS patients in order to ensure the best possible course of this stigmatizing and painful disease and to reduce the number of working days lost through sickness and HS-related healthcare issues

This educational session aims to enhance the pharmacists' knowledge about the signs & symptoms of HS.



## Fadi El Karak. MD, Medical Oncology-Hematology

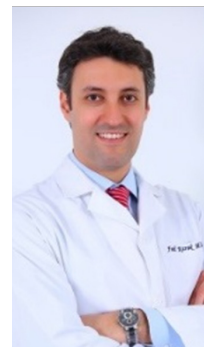
Chief of Oncology Department at Bellevue Medical Center

### **Advances in the Treatment of Relapsed Refractory CLL**

Chronic lymphocytic leukemia (CLL) is one of the chronic lymphoproliferative disorders (lymphoid neoplasms). It is characterized by a progressive accumulation of functionally incompetent lymphocytes, which are usually monoclonal in origin.

CLL is the most common leukemia in adults in Western countries. The disorder is more common in men, and is considered to be mainly a disease of older adults, with a median age at diagnosis of approximately 70 years.

General issues regarding the treatment of CLL/SLL will be reviewed during this presentation as well as cytogenetic and molecular abnormalities related to this disease and their implication in the prognosis and treatment.



## Rita Nemr. MD, Endocrinologist

Assistant Professor of Endocrinology at Lebanese American University

### **New Take on Insulin Glargine: Why Quality Matters?**

LY2963016 insulin glargine (LY IGlAr) was approved in Europe in 2014 as the first biosimilar insulin. This approval based on the comprehensive program of preclinical and clinical studies comparing this product to the reference glargine product insulin (SA IGlAr) expanded the treatment options available to people with diabetes.

Since then LY IGlAr has been approved in 70 countries around the world and it has set an example for development of other biosimilar insulin products in markets adopting strict regulatory guidelines.

Phase I euglycaemic clamp studies conducted in healthy people which adopted bioequivalence criteria for PK and PD provided the most important evidence for similarity of LY IGlAr and SA IGlAr. Other comparative phase I studies compared durations of action





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for LY IGlár and SA IGlár in people with Type 1 diabetes and relative bioavailability for LY IGlár and SA IGlár at two different doses in healthy subjects.

Two phase III studies conducted in people with Type 1 and Type 2 diabetes confirmed the efficacy findings from the PK/PD studies and provided additional data on safety and immunogenicity of LY IGlár in comparison with SA IGlár. Study ELEMENT-1 was an open-label, 52-week trial with the primary endpoints at week 24 involving 535 participants with Type 1 DM who received either LY IGlár or SA IGlár with in combination with pre-meal insulin lispro. 24-week double-blind trial ELEMENT-2 compared LY IGlár and SA IGlár in 756 people with Type 2 diabetes who were either insulin naive or previously treated with SA IGlár and were taking at least two oral antihyperglycaemic medications. The primary efficacy objective to demonstrate non-inferiority of LY IGlár to SA IGlár in HbA1c level change from baseline to 24 weeks (margins of 0.4%, and then 0.3%) was met in both trials. LY IGlár and SA IGlár showed similar efficacy and safety profiles in people with Type 1 or Type 2 supporting the overall conclusion of similarity between LY IGlár and the reference product. The presentation will outline the development of LY IGlár, lessons learnt from the clinical trials and post-marketing experience and practical considerations for its use in diabetes clinic.

## Luc Besancon. PharmD

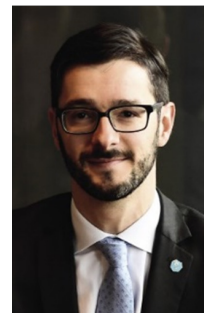
Former CEO at the International Pharmaceutical Federation

### **International Perspective on the New Roles of Pharmacists**

As highlighted in the "Joint FIP/WHO guidelines on good pharmacy practice: standards for quality of pharmacy services" adopted in 2011, the role of pharmacists primarily focuses within the pharmaceutical continuum (research and development, manufacturing, supply chain, dispensing...). But their role has shifted from product-focused to a patient-centered approach, where medicines remains a major component.

Grounded on pharmacists' expertise on medicines and their unique position in society, pharmacists' role has been expanded in many countries to respond to local needs, and this presentation will provide various examples of this evolution.

Pharmacists are more and more often involved in providing services fully integrated in healthcare system and primarily aiming at improving patients' health through ensuring responsible use of medicines. These services, built upon pharmacists' traditional and central role of dispensing pharmaceutical products, are targeting patients, but also increasingly the healthcare system, such as other healthcare professionals, healthcare institutions, healthcare funders or healthcare administrators. These services include pharmaceutical triage, pharmaceutical care, adherence support, immunization, medicines use review, tobacco cessation, health promotion or education to list only a few.

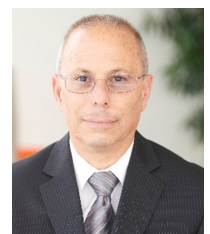


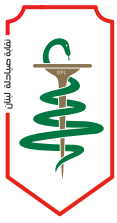
## Peter Pitts. BA, McGill University

President at the Center for Medicine in the Public Interest

### **Evolving Trends in 21st Century Medication Safety**

All medicines exhibit potential benefits for patients and also harms. Inherently, the goal of "medication safety" is to assess the benefits and risks to patients consuming medicines without requiring "zero tolerance" for such risks. Yet in an environment of





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expanding expedited and conditional review pathways for the treatment of serious and life-threatening diseases using newly available brand name, generic and biosimilar medicines, we must care more than ever about medication safety via more regular and creative risk management plans to be sure, but also through a more diligent effort to understand just what “safety and surveillance” is about.

These activities underscore the fact that 21st century pharmacovigilance isn't just about uncovering, reporting, and addressing adverse events associated with already approved and marketed prescription medicines, rather it can be best described as the systematic monitoring of an “ecosystem” or in the words of the United Kingdom's Medicines and Healthcare Products Regulatory Agency “Monitoring the use of medicines in everyday practice to identify previously unrecognized adverse effects or changes in the patterns of adverse effects; Assessing the risks and benefits of medicines in order to determine what action, if any, is necessary to improve their safe use; Providing information to healthcare professionals and patients to optimize safe and effective use of medicines; Monitoring the impact of any action taken.”

Many questions remain regarding the purview, roles and responsibilities of both national and cross-national pharmacovigilance efforts. Should pharmacovigilance address evolving bioequivalence issues for narrow therapeutic index products and critical dose drugs? Is pharmacovigilance only about “the product?” or must it also include investigations into the suppliers of the fill product, their sourcing of active pharmaceutical ingredients (API) and excipients for potential associations with specific events, as well as the role of current good manufacturing practices (cGMP)? Should pharmacovigilance include efforts to systematically record sub-optimal therapeutic outcomes for a given drug? Is the primary objective of pharmacovigilance efforts by state-run agencies, pharmaceutical manufacturers, physicians, patients, punitive or iterative, tactical or strategic?

This article focuses attention on several of these questions including the emerging role(s) of data as the successful foundation of pharmacovigilance, issues related to attribution and indeterminacy and interactive effects of pharmacovigilance across developed and developing countries.

## Iman Hesso. BS Pharm, MS

PhD Researcher at the Kingston University London

### **The Role of Community Pharmacists in Respiratory Diseases: How Can Technology Support This?**

Respiratory conditions such as asthma and Chronic Obstructive Pulmonary Disease (COPD) are examples of long-term conditions that have a high economic burden on healthcare systems worldwide due to costly hospital admissions and medication wastage. Inhaler therapy represents the backbone for the management of respiratory diseases. Poor adherence to inhaled therapy and poor inhalation technique has been reported in the literature to be problematic issues among respiratory patients. However, a recent review by the researcher showed that interventions done by community pharmacists have a positive impact on the management of respiratory patients regarding adherence and inhalation technique. However, most methods used by healthcare professionals including community pharmacists to assess patients inhalation technique and adherence are subjective in nature. An example of this would be the checklist method for assessing inhalation technique, and medication refill records or patient self-reported questionnaires for adherence. Nevertheless, assistive technologies to objectively assess adherence and





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Inhalation techniques have emerged to address such a gap, but some of these technologies assess adherence alone, whereas others assess inhalation technique alone. Therefore, a recent mobile technology called Inhaler Compliance Assessment (INCA) has been developed and introduced to provide objective monitoring about both adherence and inhalation technique at the same time while patients are using their inhalers at home. Therefore, the aim of this presentation is to introduce the audience to the role community pharmacists can play in supporting respiratory patients and how mobile technology such as INCA support that role.

## Rita Khoury, PharmD, MS

Community Pharmacist. Managing Editor at AndroidPolice.com

### **From WhatsApp to Virtual Reality: The Intersection of Pharmacy and Mobile Technology**

This lecture proposal revolves around the uses of mobile technology in pharmacy and healthcare. It will tackle topics such as the different ways the smartphone can help pharmacists in their continuous education, including examples of podcasts to listen to and YouTube channels to follow, as well as the tools to aid patients in their disease management, with apps for tracking their health, games for managing their depression, and apps to help with Alzheimer's disease progression. Then it will focus on the new wave of wearables and "smart" gadgets that promise to improve everyone's health, explain the use of mobile technology to advance medical research such as how your phone can help researchers while you're asleep, and finally discuss the new possibilities provided by virtual reality from phobia treatments to remotely-assisted surgeries.

The proposed plan (subject to change based on the lecture's length) is as follows:

- Primer on the invisible but omnipresent involvement of technology in healthcare
- Mobile technology and the pharmacist's continuous education
- Mobile technology and the patient's education and healthcare
- Accessories, gadgets, and an ever-evolving health tracking and healing scene
- Technology in medical research and diagnosis
- Virtual and Augmented Reality and the healthcare revolution
- Legal and technical issues
- The future of pharmacy, medicine, and healthcare



## Antoine Geagea, MD, Gastroenterologist and Interventional Endoscopy

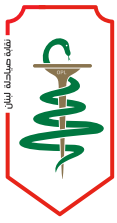
Chief of Department of Gastroenterology at Clinique du Levant

### **Role of Probiotics**

Probiotics are live bacteria and yeasts that are good for your health, especially your digestive system. We usually think of bacteria as something that causes diseases. But your body is full of bacteria, both good and bad. Probiotics are often called "good" or "helpful" bacteria because they help keep your gut healthy. Good bacteria are naturally found in your body. You can find probiotics in some foods and supplements. It's only been since about the mid-1990s that people have wanted to know more about probiotics and their health benefits. Doctors often suggest them to help with digestive problems. And because of their newfound fame, you can find them in everything from yogurt to







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chocolate. How Do They Work?

Researchers are trying to figure out exactly how probiotics work. Here are some of the ways they may keep you healthy: When you lose "good" bacteria in your body (like after you take antibiotics, for example), probiotics can help replace them.

They can help balance your "good" and "bad" bacteria to keep your body working like it should.

Many types of bacteria are classified as probiotics. They all have different benefits, but most come from two groups.

**Lactobacillus.** This may be the most common probiotic. It's the one you'll find in yogurt and other fermented foods. Different strains can help with diarrhea and may help with people who can't digest lactose, the sugar in milk.

**Bifidobacterium.** You can also find it in some dairy products. It may help ease the symptoms of irritable bowel syndrome (IBS) and some other conditions.

**Saccharomyces boulardii** is a yeast found in probiotics. It appears to help fight diarrhea and other digestive problems.

Probiotics help move food through your gut. Researchers are still trying to figure out which are best for certain health problems. Some common conditions they treat are:

- Irritable bowel syndrome
- Inflammatory bowel disease (IBD)
- Infectious diarrhea (caused by viruses, bacteria, or parasites)
- Antibiotic-related diarrhea

There is also some research to show they help with problems in other parts of your body. For example, some people say they have helped with:

- Skin conditions, like eczema
- Urinary and vaginal health
- Preventing allergies and colds
- Oral health

## Nathalie Lahoud, PharmD, MPH, PhD

Assistant Professor of Epidemiology at the Lebanese University, Faculties of Pharmacy and Public Health

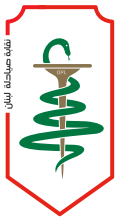


### **Epidemiology of Stroke in Lebanon:**

#### **Literature Review and Update on Acute Stroke Management.**

In Lebanon, there are about 16,000 stroke survivors at any given time and every year stroke affects some 6,300 new people of whom 2,000 die soon after stroke with a total number of disability-adjusted life-years lost amounting to 37,000 annually (Global Burden of Disease study). Over the last 25 years there was a clear trend towards increasing stroke burden in Lebanon and internationally, with a tendency of affecting more and more young people.

The current presentation sheds light on recent studies published in the context of stroke epidemiology in Lebanon to point out particularly the critical situation of acute stroke care in Lebanese hospitals, and the need to implement organized stroke units and awareness campaigns (FAST). It also provides an insight into ischemic stroke latest management guidelines and the role of pharmacists in reducing stroke burden in the country.



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## Aline Hajj, PharmD, PhD

Maître de Conférences et Coordinatrice de Pharmacie clinique (Faculté de Pharmacie).  
Chercheur au Laboratoire de Pharmacologie, Pharmacie clinique et Contrôle de Qualité des médicaments (LPCQM), Pôle Technologie- Santé (PTS). Université Saint-Joseph



### **Le rôle du pharmacien officinal dans la santé orale**

Le pharmacien d'officine, spécialiste du médicament et de son bon usage, participe à une mission d'intérêt public et joue un rôle primordial dans l'éducation du patient lors de la dispensation des médicaments. L'odontologie couvre plusieurs disciplines auxquelles le pharmacien est quotidiennement confronté du fait de l'accès permanent et facile de l'officine pour le public. Les patients y retrouvent les premiers soins et des conseils personnalisés avant d'être référés à un spécialiste. Du fait de sa grande accessibilité, le pharmacien d'officine, à l'écoute de sa clientèle, joue un rôle primordial dans la promotion d'une hygiène bucco-dentaire de qualité. Il doit donc par des conseils appropriés et dans le domaine de ses compétences, inciter les patients à prendre soin de leur santé dentaire et à les référer à leur dentiste quand cela semble nécessaire. Ce nouveau rôle du pharmacien exige une actualisation de ses connaissances en termes de santé dentaire et un développement professionnel continu tout au long de sa carrière. Posséder l'essentiel des notions et l'acquisition, dans le cadre d'une formation continue, de nouvelles connaissances et compétences en matière de santé bucco-dentaire ne fera que valoriser le métier officinal. D'où l'importance d'une relation privilégiée entre les différents acteurs de la santé bucco-dentaire. La collaboration pharmacien-dentiste est fondamentale afin que chacun d'eux remplisse son rôle d'éducateur de l'hygiène dentaire ; le but étant d'élargir le rôle du pharmacien dans la santé dentaire tout en respectant les limites de l'exercice de sa profession et d'améliorer la qualité de soins fournis en termes d'hygiène bucco-dentaire.

Cette présentation a pour but de sensibiliser les pharmaciens à leur rôle dans la promotion de la santé orale dans le cadre d'une prise en charge multidisciplinaire du patient. Elle présente également les résultats préliminaires d'une enquête réalisée auprès des pharmaciens officinaux libanais exerçant dans toutes les régions du Liban (en collaboration avec l'Ordre des Pharmaciens du Liban (OPL)) visant à évaluer leurs connaissances, perception et pratiques officinales en matière de santé orale.

## Rouba Karen Zeidan, PharmD, MPH, PhD

Associate Professor at the Lebanese University - Faculty of Public Health II

### **Lebanese Community Pharmacists' Involvement and Interest in Research**

Community pharmacists can make a significant contribution to research from small scale projects to large scale treatment effectiveness of new services. In developed countries, much effort has been done to develop and support pharmacy practice research, which became an important component in the pharmacy practice.

A study was carried out by the research committee of the Order of Pharmacists in Lebanon, which targeted community pharmacists. The aim of the study was evaluate prior involvement of Lebanese community pharmacists in research and their willingness and interests regarding participation in research projects. A cross-sectional survey was conducted throughout Lebanon on a sample of 399 community pharmacists.

The results of the study will be presented, with the main purpose of encouraging community pharmacists to participate in research in order to eventually build a practice-based research network.





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## Marcel Bassil. BSc, MSc, PhD and CCRP

Associate Director Biotech at Benta Pharma Industries

### Role of the Pharmacists in the Biopharmaceuticals in the MENA Region

Pharmacists in the MENA region as worldwide play an important role in the selection and in the usage of Biopharmaceuticals, however, they can also play an important role in the production and in the quality by design of the development of all Biopharmaceutical products. Changes in the drug product have necessitated increased pharmacy participation in patient care such as the entrance of the Biotechnology process in the Biomanufacturing of Biopharmaceuticals (Innovators and Biosimilars). As Biotechnology progresses, numbers of Biopharmaceuticals will increase and therefore Biotechnology will dictate the drug therapy in the near future. Pharmacists will need to become more and more familiar with these products as well as their impact on patient care."



## Malak Naboulsi. Pharmacien Biologiste

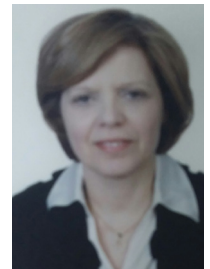
Directeur des laboratoires d'Hématologie et d'Immunologie à l'hôpital Albert Haykel

### Surveillance biologique des anticoagulants oraux directs: qui, quand et comment ?

Plusieurs anticoagulants oraux directs (non-VKA oral anticoagulants, NOACs) sont maintenant largement utilisés dans la prévention et le traitement de la maladie thromboembolique. Il s'agit des petites molécules qui inhibent spécifiquement et sélectivement le facteur Xa. (Rivaroxaban, Apixaban) ou la thrombine (dabigatran).

Contrairement aux antagonistes de la vitamine K, les NOACs possèdent un profil pharmacocinétique et pharmacodynamique relativement prédictible : ils sont prescrits à dose fixe et ne nécessitent pas de monitoring. Cependant, pour certaines sous-populations ou circonstances cliniques, la mesure de l'exposition au médicament peut être utile : suspicion de surdosage, patients présentant un événement hémorragique ou thrombotique en cours de traitement, patients en insuffisance rénale, ou encore patients nécessitant une chirurgie ou un geste invasif en urgence.

Les anticoagulants oraux agissent sur la plupart des tests de coagulation, leurs effets dépendent de la concentration de ces molécules et de la sensibilité des réactifs actuels. La détermination de l'INR au cours de ces traitements n'a pas de valeur et doit être abandonnée du fait de l'inadaptation des réactifs employés. La détermination de la concentration de ces nouveaux anticoagulants nécessite des tests spécifiques et non des tests chronométriques classiques qui sont sensibles à d'autres anomalies possibles de la coagulation. Les biologistes doivent être vigilants vis-à-vis de la sensibilité de ces réactifs employés et doivent accompagner les cliniciens dans l'interprétation des résultats.



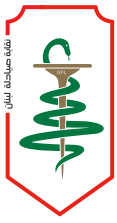
## Gilbert Karayakoupoglou. Medical Laboratory Specialist

Laboratory Director at the Albert Haykel Hospital

### Personalized Therapy in the Post-Human Genome Project Era

Also termed Precision medicine, Personalized therapy is a relatively new science that aims to separate patients suffering from the same condition into different groups according to their genetic background and disease stratification for a better management and a tailored treatment. Personalized therapy today uses a panel of genomic and proteomic tools to optimize both diagnosis and intervention.





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## Soraya Talhouk. Pharmacien Biologiste

Directeur des laboratoires à l'Hôpital Universitaire Rafic Hariri

### **Maladies mentales et agents infectieux**

La pathogénie des maladies psychiatriques est vraisemblablement multifactorielle. Des éléments environnementaux pourraient contribuer à l'apparition ou à l'aggravation de la maladie sur un terrain génétique prédisposant. Les virus, les bactéries, les levures et les parasites figurent en bonne place parmi les facteurs infectieux, en raison de leur distribution ubiquitaire et de leur fréquent neurotropisme.

Des liens sont parfaitement établis entre autisme et *Candida albicans*, schizophrénie, trouble obsessionnel compulsif et *Toxoplasma gondii*, *Borellia burdorferie* (maladie de Lyme) et virus de la grippe.

Certains micro-organismes atteindraient le cerveau, d'autres déclencheraient des réactions immunitaires qui perturberaient le développement cérébrale ou attaqueraient les cellules nerveuses par des mécanismes auto-immuns.



## Wissam Kabbara. PharmD, BCPS-AQ ID

Clinical Associate Professor at the Lebanese American University

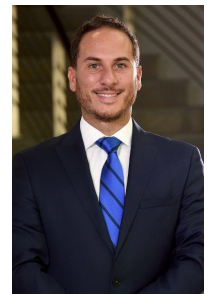
### **Adherence to International & Lebanese Guidelines for the Treatment of Uncomplicated Urinary Tract Infections in Lebanese Community Pharmacies**

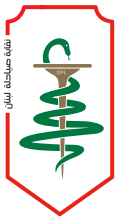
The overall purpose of this educational activity is to present the results of a recently conducted study in Lebanon that evaluated the appropriate treatment of uncomplicated urinary tract infections (UTI) in community pharmacies, to review the treatment of uncomplicated UTI, and raise awareness about antimicrobial stewardship and overuse of specific antimicrobial agents in the community.

The Infectious Diseases Society of America (IDSA), the European Society for Microbiology and Infectious Diseases, and the Lebanese Society for Infectious Diseases and Clinical Microbiology (LSIDCM) guidelines highlight the importance of local resistance patterns and the propensity for collateral damage in the choice of empirical antibiotics for uncomplicated cystitis. In Lebanon, resistance of *Escherichia coli* to ciprofloxacin is consistently increasing (around 40 percent in 2016). In addition, the FDA issued a new safety warning against the use of fluoroquinolones for uncomplicated infections. The purpose of this study is to evaluate antibiotic prescribing practices and adherence to guidelines for the treatment of uncomplicated urinary tract infections in Lebanon.

This observational prospective study was conducted in 15 community pharmacies in Lebanon over 1 year in adult females. A regimen of nitrofurantoin 100 mg bid for 5 days or fosfomycin 3 grams single dose (or selected  $\beta$ -lactams per the LSIDCM) were considered appropriate. Empirical trimethoprim/sulfamethoxazole was considered inappropriate (resistance of *E. coli* to TMP/SMX in Lebanon is around 50 percent). For the bivariate analysis, the chi square test was used. In all cases, a p-value <0.05 was considered statistically significant. The study was approved by the Institutional Review Board of the Lebanese American University.

A total of 376 patients were included in this study. The prescribed antibiotic was appropriate in only 35 percent of the patients. Age (more than 50 years) did not significantly affect the appropriateness of the prescribed antibiotic (p=0.508). The frequency of attacks per year (more than 3) negatively affected the choice of antibiotic (p=0.025). The dose and duration of the prescribed antibiotic was appropriate in 73 and 58 percent of the patients respectively, with a significant inappropriate dose and duration with fluoroquinolones as compared to nitrofurantoin and fosfomycin (p<0.001 for the dose and p=0.014 for the duration of therapy).





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In an era of increasing bacterial resistance and dwindling antimicrobial choices for Gram negative infections, interventions that improve physicians' prescribing practices of appropriate therapy for uncomplicated UTIs are needed.

## Rony Zeenny, PharmD, MPH, BCPS-AQ ID

Associate Pharmacy Director for Clinical Services at the American University of Beirut Medical Center



### **Managing Sleepless Patients: Primary Sleep Disorder Perspective vs. Drug Induced Insomnia Counseling**

Sleep problems are very common among problems including outpatients. Based on a study of 900 participants, around 50% of the Lebanese sample population have some type of sleep disturbance related to a primary sleep disorder, a mental condition or medical condition. As people age, a number of changes occur to sleep patterns. Many medications can interfere with sleep and sequentially cause insomnia.

The objective of this presentation is to educate pharmacists, particularly community pharmacists of potential drug induced insomnia and emphasize pharmacological and non-pharmacological treatment options.

Insomnia is a commonly seen problem in community pharmacies as patients are complaining of their inability to sleep whereas in often times can be drug induced.

Counseling is of utmost importance.

## Dalal Hammoudi, BS Pharm, MSc, PhD

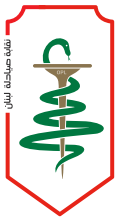
Chairperson, Department of Pharmaceutical Sciences, School of Pharmacy - Lebanese International University



### **Dream Nails? A Review on Updates and Treatment Challenges of Onychomycosis**

Onychomycosis is a common fungal infection of toenails or fingernails that is estimated to account for 50-60 percent of nail abnormalities, and may involve any component of the nail unit. It is caused by various molds and yeasts, and results in pain, discomfort, disfigurement, physical and occupational limitations, and reduced quality of life. The current changes in demographic characteristics such as relative aging of the population, increasing prevalence of diabetes and peripheral vascular disease, widespread iatrogenic immunosuppression, and deviation in lifestyle practices such as earlier and greater participation in sports, are likely to lead to an increased prevalence of onychomycosis in both adults and children. Despite often being thought of as a purely cosmetic issue, onychomycosis may be a source of morbidity and could lead to complications, hence warrants treatment. Pharmacists are able to play an important role in the prevention and treatment of this condition.

Therapeutic options for onychomycosis include oral antifungal medications, topical antifungal medications, and physical interventions. Factors such as the causative organism, severity of nail involvement, treatment side effects, and patient preference influence therapy selection. In general, using an oral antifungal is the most effective treatment; however, such option may be inappropriate for some populations, particularly those with liver dysfunction.



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The objectives of this educational session are:

Overview of basic types, clinical manifestations, prevalence and risk factors for onychomycosis.

Review of updated pharmacotherapy guidelines for onychomycosis management.

Elaboration of effective antifungal agents, with emphasis on proper use, dosing, duration of treatment, side effects, follow-up and precautions.

Highlighting other therapeutic interventions including laser, photodynamic therapy (PDT), and surgery.

Preparing pharmacists to discuss with patients the pros and cons of antifungal therapies of onychomycosis, non-pharmacologic and alternative treatments, as well as issues of recurrence which are quite common with this disorder.

## Carla Irani. MD, FAAAAI, MSCE

Allergist, Immunologist and Asthma Specialist at Hôtel Dieu de France Hospital

### **Practical Tips for the Management of Allergic Diseases**

The incidence of allergic diseases in most countries has increased. Although the exact mechanisms behind this rapid increase in prevalence remain uncertain, a variety of air pollutants have been examined as possible triggers or precipitant factors.

The presentation will focus on particularities of management of common allergic diseases such as allergic rhinitis and urticaria, with a focus on the latest guidelines

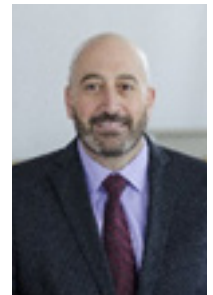


## Joseph Saseen. PharmD, FCCP, FASHP, BCPS, BCACP

Professor and Vice Chair at the University of Colorado

### **The ACCP Clinical Pharmacist Competencies Guideline... Why it is Important**

The American College of Clinical Pharmacy published a Guideline in 2017 called Clinical Pharmacist Guidelines. There are several updates that are in this new guideline that reflect contemporary clinical pharmacy practice. Within these new guidelines, there is an increased emphasis on team-based, and patient-centered care. There are also recommendations to adopt comprehensive medication management (CMM) as the optimal means of addressing medication optimization. Overall, this update was needed due to the expansion of the scope of pharmacist practice and collaborative practice agreements between pharmacists and medical providers. The intent of this guideline is to further progress our profession by defining what the competencies of a clinical pharmacist should be. Furthermore, there is recognition that clinical pharmacist competencies should integrate with those of other health professionals (in particular physicians) and reflect the abilities necessary to fully assume direct patient care responsibilities as a member of the health care team. This presentation will provide a comprehensive overview of this guideline and speculate how this will further facilitate the involvement of clinical pharmacists within healthcare.





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## Mahendra Patel. BPharm, PhD, FRPharmS, FHEA

National Pharmacy Board Member & Principal Enterprise Fellow (Academic) in Pharmacy Practice at the University of Huddersfield



### **What is the Royal Pharmaceutical Society Doing for its Members' CPD?**

The Royal Pharmaceutical Society (RPS) is the leadership body for pharmacists in Great Britain. One of its Royal Charter and strategic objectives is to support its members' continuous professional development (CPD) by providing developmental frameworks for each of the career stages.

Framework for students to use throughout their undergraduate education and into their pre-registration years.

For newly qualified pharmacists or those returning to practice after an absence. It is a developmental framework focussing on the requirements for pharmacists in their first 1000 days of practice and covers clinical and management competencies. Alongside the framework and underpinning the development of foundation pharmacists lies recognised assessment tools which are used in workplace based learning and assessment.

For pharmacists who are post-Foundation and more experienced. It is also a developmental framework for pharmacists to identify their skills and knowledge gaps and for them to continue to develop as professionals underpinned by credentialing against the faculty framework.

Continuous professional development and revalidation

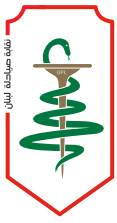
All of the developmental programmes use an e-portfolio for pharmacists to record their learning and development as a way of maintaining their CPD. The pharmacy regulator, the General Pharmaceutical Council (GPhC), has required pharmacists to submit their CPD portfolios to them as a way of ensuring the pharmacists were maintaining their professional skills and knowledge.

The RPS is supporting members through the revalidation process by providing:

- Learning materials and guides to support writing for CPD entries
- Professional standards
- CPD resources
- CPD modules
- Learning articles from the Pharmaceutical Journal
- Tools to support CPD records
- Example of CPD records for revalidation

The RPS has a range of affiliated partners such as the United Kingdom Clinical Pharmacy Association (UKCPA), the Primary Care Pharmacists Association (PCPA), which provide a wide spectrum of learning and development resources for members.

Supporting the Order of the Lebanese Pharmacists with similar resources and materials could prove distinctly valuable in enhancing the wider professional development of pharmacists throughout Lebanon.



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## Andras Sule. PharmD, PhD

Director of Finance at the European Association of Hospital Pharmacists

### **The European Statements of Hospital Pharmacy: Implementation Strategies and Professional Proceedings**

In 2014, EAHP, in pursuit of its engagement to improve care and outcomes for patients with the activities of hospital pharmacists, published the European Statements of Hospital Pharmacy. This declaration expresses commonly agreed objectives and recommendations for the whole hospital pharmacy practice which every European health system should aim for.

The EAHP board of Directors subsequently established an implementation plan for the Statements, enabling a next logical step forward: a clear compelling plan for what the profession is about in which direction it is intended to grow to achieve further advancements in pharmacy practice. The timeline is set a five-year horizon, welcoming the participation of all stakeholders in the medication use process to bring about the full achievement of the statements throughout the member countries. This action plan consists of:

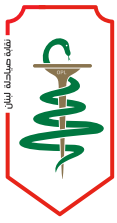
- Developing a yearly updated strategic Implementation
- Creating strong national implementation networks
- Designing an awareness campaign
- Setting up a Statement implementation website([www.statements.eahp.eu](http://www.statements.eahp.eu))
- Developing a self-assessment tool allowing hospital pharmacists to assess the level of statement implementation within their hospitals.
- Approaching European and national relevant stakeholders
- Designing national implementation strategies
- Identifying statement implementation learning collaborative Centers (SILCCs) as hospitals willing to provide training all over Europe in procedures related to the statements.

Consistent with this approach, EAHP is working with health management associations, doctors and nurses' associations, patient groups and other healthcare associations to find ways to collaborate during these phases of implementation.

In addition to the statements, EAHP is developing a common training framework for Hospital Pharmacy education in Europe to support the raising of standards in hospital pharmacy practice in every European country. It will provide another key tool for all countries in delivering the vision of the 44 European Statement of Hospital pharmacy.







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## HAMRA HALL

### Maiya Khatkhokhu, MD

Dr of Medicine. Dean of the Faculty of Pharmacy

#### Antibiotic Therapy in Ambulatory Practice

### Hazret Namitokov, MD

Dr. of Medicine. Director of the Medical institution MSTU, Dean of the Faculty of Medicine

#### Infectious Diseases: Challenge to Civilization

Among all the numerous health problems, infectious diseases have the most profound effect on human being. Infection significantly determined the way of development of earth's civilization that has made them a leading Director in the drama of human history.

Almost all of the major achievements in the field of infectious diseases have occurred over the past two centuries. These breakthroughs in the prevention, treatment, control, eradication of infectious diseases are among the most important achievements of medicine. However, due to the evolutionary potential of pathogens, their ability to adapt to new environmental niches and resist pressure aimed at their elimination, we will always be forced to confront a well-known and newly emerging infectious threats. This struggle will continue for centuries to come in the future, because the challenge of infections is truly timeless



### Maiya Khatkhokhu, MD

Dr of Medicine. Dean of the Faculty of Pharmacy

#### Role of Nonsteroidal Anti-Inflammatory Drugs in Modern Life

### Maiya Khatkhokhu, MD

Dr of Medicine. Dean of the Faculty of Pharmacy

#### Features of Clinical Use of Steroidal Anti-Inflammatory Drugs in Adults and Pediatrics

### Hani Dimassi. PhD

Associate Professor at the Lebanese American University

#### Trusting the Pharmacist in Delivering Medication Information:

##### A Community View Point

Trust can be defined as a psychological state consisting of a relational notion between people, or people and organizations. Physicians and pharmacists are two separate entities of the healthcare system and their roles can be clearly defined and differentiated: diagnosis, therapy need assessment, prescription, and treatment goal setting for the first; dispensing,





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compounding, intervention (DDI, SE), education, and counseling for the latter.

The aim of this study was to assess the trust in pharmacists with medications information as compared to medical doctors among rural community.

The focus of this study is 3 rural areas. All residents aged 40 and above were considered eligible to participate, and a total of 760 participants were interviewed. Data was collected by trained community health workers during the summer of 2015. Participants were asked whom do they trust the most for medication information (only one option was allowed).

154 named pharmacist as their first trusted source of medication information (20%), the following groups were more trusting than their counter parts: Males (29.3% vs 16.2%  $p < .001$ ), younger age groups (31.5% among <50 years, 18.8% among 50-64 years, and 14.6% among 65+ years  $p < .001$ ), singles (31.6% vs 21.9% married and 9.3 others,  $p = 0.023$ ), working (39.2% vs 15.7%  $P < .001$ ), and insured (2.3% vs 16.4%  $p = 0.048$ ). Having a family member with diabetes, hypertension, high cholesterol, or cardiovascular increased the likelihood of trusting pharmacists over medical doctor with medication information.

The majority of the Lebanese rural community residents trust the physician over the pharmacist with information about their medication, though pharmacists are the drug specialist. Pharmacist role has evolved in the past to include more interactive relation with the patient.

Participants were not given the option to select both physicians and pharmacists and thus the results are only comparative between the two professions.

## Aline Bou Maroun. PharmD, BCPS

Clinical preceptor and instructor at the Lebanese American University

### **An Evaluation of the New Prescription Rule in Lebanon: Pharmacists View Point on Usefulness, Work Flow and Autonomy**

In Lebanon, the triplicate prescription form was instated by ministerial decision no. 1925 in 2011. This decision introduced the unified prescription (UP) form in its three copies. In this generic substitution initiative, pharmacists are supposed to play a key role.

The aim of our study was to evaluate how community pharmacists view the newly implemented UP in terms of usefulness, impact on autonomy and work flow.

A mixed research design (quantitative and qualitative) was used. First a telephone survey of community pharmacists in Lebanon was done 2016. Three questions about UP were asked: was it useful? Did it impact the pharmacist autonomy? Did it affect workflow?

Second, 12 in-depth interviews were conducted to further explore the dependent variables.

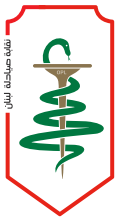
Both parts of the study were approved by the Lebanese American University Institution Review Board. 300 phone interviews were done (65.2% response rate) representing all 6 governorates. More than half of the sample (56.8%) saw the UP as not useful, and a highest proportion did not see an impact on the workflow (complexity 63.2%, autonomy 48.8%).

In the qualitative interview pharmacist view autonomy in pharmacy practice was defined by the ability to do their jobs independently, without having to refer to physicians for drug substitutions, and the ability to make and implement decisions for the benefit of the patient.

The majority complained that UP complicated their daily chores, adding paperwork and increasing storage space. As for the usefulness of UP, interviewees stated that, although the form used is professional, well divided and user friendly, it is not of added value in their practice.

Implementation of the new form is still far from the expected and remains incomplete. Educating the public about the role of the pharmacist in drug substitution should remain on the top of OPL priority.





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## Krikor Sahakian. BPharm, PhD

Assistant Professor at the St Joseph University (USJ) Faculty of Pharmacy



### **Empirical Antibiotic Therapy, Dysbiosis and Induced Pathologies**

During the past one hundred and fifty years, medicine has made tremendous advances in the fight against infectious diseases thanks to sanitary and hygienic measures but also thanks to the vaccinations of childhood and the massive use of antibiotics.

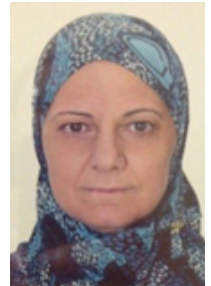
Nevertheless, since a few decades, new insidious pathologies are emerging and spreading in a worrying way: obesity, precocious insulin-dependent diabetes, asthma, eczema and allergies, dietary intolerances and celiac disease, gastroesophageal reflux disease and subsequent cancer, autism, and a variety of so-called autoimmune diseases: Crohn's disease and ulcerative colitis, multiple sclerosis, polyarthritis, lupus, etc.

We have just become aware of the major participatory role played by the microbes that we host (microbiota) in maintaining our homeostasis. This microbiota is being deeply reshaped and we are confronted with a much more serious problem than the appearance of resistances, that of the profound disturbance of our metabolic and immune balance, not only at the individual level, but at the level of the human species as a whole.

Thus, we cannot consider anymore empirical prescribing of antibiotic therapy in so-called benign pathologies in the way we used to do. Regarding the new advances in the knowledge of the functioning of human microbiota, we are at the edge of a new era which will elicit profound changes in the therapeutic strategy adopted with regard to infectious diseases.

## Ulfat Usta. PharmD, BCPS, BCNS

Pharmacy Director at AUBMC



### **Devising Order Sets**

According to the ISMP well-designed standard order sets have the potential to:

Integrate and coordinate care by communicating best practices through multiple disciplines, modify practice through evidence-based care and reduce variation through standardized formatting and clear presentation of orders.

Order sets also reduce the potential for medication errors through integrated safety alerts and reminders.

However, if standard order sets are not carefully designed, reviewed, and maintained to reflect best practices and ensure clear communication, they may actually contribute to errors.

This Interactive workshop will be designed to enhance the knowledge and skills of the audience to determine the elements of order sets and work on the development of two order sets for breast cancer and colon cancer.

## Nibal Chamoun. PharmD, BCPS

Clinical Assistant Professor and Clinical Coordinator at the Lebanese American University



### **Peri-Operative Management of Anticoagulation**

With the availability of various options for oral anticoagulants, many patients are now managed with oral anticoagulants including vitamin k antagonists or direct oral



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anticoagulants. As such, it is critical for pharmacists in both the community and hospital settings to be familiar with these high-risk medications especially when patients on anticoagulation are scheduled for procedures or operations. Pharmacists are key players in the clinical decision making process and patient education in order to optimize the outcomes of patients on anticoagulation therapy in the perioperative setting.

Identify risk factors associated with perioperative bleeding versus thromboembolism

Discuss the decision pathway to consider in perioperative management of anticoagulation

Recognize key factors linked to the appropriate timing to withhold oral anticoagulants

Identify patients who warrant "bridging of parenteral anticoagulation"

Identify the appropriate timing to resume anticoagulation post operatively

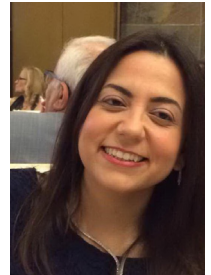
Summarize the perioperative management of vitamin K antagonists (VKA) and direct oral anticoagulants (DOACs)

## Therese Saad. PharmD, BCPS

Pediatric Clinical Pharmacists at AUBMC

## Rana Hakim. PharmD

Pediatric Clinical Pharmacists at AUBMC



## **The First Case of Pediatric Heart Transplantation in Lebanon:**

### **Pharmacotherapy Management Perspective**

Heart transplantation is one of the "last-choice" surgical therapies of heart failure and cardiomyopathies in pediatrics. In addition to the small number of donors, the management of the patient is another hurdle to overcome. Moreover, regarding the multi-drug therapy that is required and the pharmacokinetic variabilities among the population, the pharmacist's role appears to be crucial: from monitoring the immunosuppressants, to checking the interactions, and all the way to counseling upon discharge.

Summarize the immunosuppressants frequently used post pediatric heart transplantation and compare their therapeutic effects, interactions, and safety.

Distinguish among immunosuppressants' therapeutic drug monitoring, and determine the therapeutic goals to prevent rejection and avoid infections.

Define and discuss factors that influence adherence and compliance.

Highlight the important role of the pharmacist during this process.



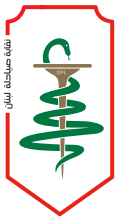
## Anna-Maria Henaine. PharmD, MS, PhD

Assistant Professor at the Lebanese University, Faculty of Pharmacy - Clinical Pharmacy Department

### **Management of Patients with Metastatic Colorectal Cancer in Lebanese Hospitals and Associated Direct Cost: A Multicenter Cohort Study**

For metastatic colorectal cancer, a series of novel agents (bevacizumab and cetuximab) has emerged during the last decade but their use in routine clinical practice is not well documented as well as their costs. Our aim is to evaluate the therapeutic management of such patients in specialized Lebanese oncologic units and to estimate the associated costs. Methods: A prospective cohort study, based on a chart review, was conducted on a representative sample of patients diagnosed for mCRC during the period 2008-2013. The type of medical management was described, as well as overall survival and total cost from diagnosis to death or the last follow-up date. Cost analysis was performed under the Lebanese Sickness Fund perspective using tariffs from 2013 in US dollars. Results: 179 patients were selected with metastatic disease among which 84.9% had colorectal





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involvement. The average follow up from diagnosis until death or to the latest news was 34.8 months. Around half of patients (49.7%) were still alive at last follow-up date. Two or three lines of treatment accounted for 4.5 %, 39.6 % and 55.9 % of total respectively with an average duration for each line of 14.5, 11.4 and 14.6 months respectively. The percentage of patients who benefited from targeted therapy was 73.2 %. The median overall survival was 20.8 months. The mean total costs of drugs was 22256\$ in patients with standard therapy alone whereas the cost increased to 80396\$ after the addition of targeted therapy. The mean global total cost was estimated at \$64,805/patient. Conclusion: The use of targeted therapy, associated to standard therapy, is highly prevalent in Lebanon in metastatic disease and the associated medical cost substantial. This study is the first to show the clinical effectiveness and costs of targeted therapy in mCRC patients based on the Lebanese Sickness Fund Perspective.

## Lina Mekawi. BS Pharm, MS, CPHQ

Senior Quality Analyst at the Quality, Accreditation and Risk Management Department, AUBMC

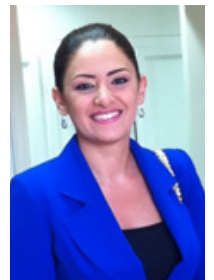


### **Quality Management and Accreditation**

The overall purpose of the presentation is to introduce basic quality and accreditation concepts, including epidemiological approaches to quality, quality and compliance reviews. PI indicators, and practical PI tools and techniques.

## Rasha Hamra. PharmD, MPH

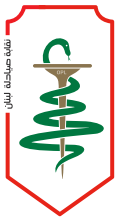
Director of Health Education Department & Focal Point for Clinical Trials Regulations at the Ministry of Public Health



### **Clinical Trials Regulations in Lebanon**

In Lebanon, prior to 2012 there was no law/regulation to regulate clinical trials in the country. The Lebanese Ministry of public health (MOPH) noticed increase in clinical trials conduction in recent years. This increase may be due to several reasons; the availability of teaching hospitals as well as high number of professionals/researchers who are interested in conducting clinical research, increasing number of sponsors interested in conducting research in a developing country like Lebanon. In addition, lack of regulations on clinical trials makes it easier/more attractive for those sponsors to conduct research in Lebanon. Thus in 2012, MOPH decided to make few steps towards having a direct role in terms of ethical and regulatory oversight on clinical trials waiting for the issuing of a relevant law by the parliament.

In June 23, 2014, MOPH issued a new ministerial decree no. 1159/1 about the regulation of clinical trials in Lebanon conditioning that any clinical trial to take place in Lebanon and involves use of investigational products to submit a comprehensive technical file to a technical committee at MOPH to approve/reject clinical trial. This decree was issued based on amended article 55 from pharmacy law that states that importation of investigational products to Lebanon should be subject to a pre-approval from the technical committee. In addition, MOPH issued another ministerial decree on 24 December 2014, no. 2286/1 concerning establishing an authorization system to review existing IRBs in country in an attempt to authorize/certify and supervise their work, where only authorized IRBs will be allowed to approve clinical trials, and ask these institutions to adopt WHO guidelines regarding standards and operational guidance for ethics review of health related research.



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The decree also includes encouraging affiliation between accredited IRBs and institutions that do not have an accredited IRB.

Regulating clinical trials is a priority for MOPH since ensuring high standards of patient safety is one of MOPH mandates. By setting clear regulations, research environment will be improved by standardizing conduct and quality of clinical trials across Lebanon and this will result in greater benefits to patients as well without exerting administrative burden on clinicians, researchers and sponsors.

## Lamis Karaoui. PharmD, BCPS

Clinical Associate Professor at Lebanese American University - School of Pharmacy



## Aline Saad. PharmD

Clinical Associate Professor at Lebanese American University - School of Pharmacy



### **Simulation-Based Pharmacy Education: The LAU SOP Experience**

Simulation-based pharmacy education (SBPE) has been recognized as an innovated approach to active learning that strengthens students' pharmacotherapeutic knowledge, enhances clinical performance, stimulates critical thinking, and decreases medication administration errors. SBPE improves student learning and ultimately improves patient care.

Teaching and assessing learning using simulation technology has a number of advantages over the traditional health sciences curricula. SBPE is generally learner-centered, where students are exposed to procedures or patient interactions they might or might not normally encounter and are provided with immediate feedback. Learners can experience different scenarios while knowing that it is acceptable to make mistakes and learn from them.

During this presentation, facilitators will introduce simulation based education and its role in pharmacy through the following learning objectives:

- Describe the rationale for simulation based education
- Discuss the relevance of simulation to safety and quality in healthcare
- Identify the different simulation modalities
- Detail the benefits and challenges in simulation based education
- Summarize evidence provided in the literature for simulation based pharmacy education

Example of the integration of simulation-based education within the curriculum of the School of Pharmacy at the Lebanese American University will be highlighted. Additionally, this presentation will guide participants who are new to the concept of simulation on steps needed for the integration of simulation-based education at their respective institutions.

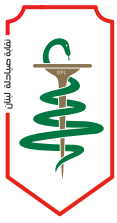
## Bassima Hazimeh Issa. BS Pharm, MBA

Senior Product Specialist at Fattal. Bristol-Myers-Squibb service provider



### **Employee Retention in the Pharmaceutical Companies: Case of Lebanon**

Pharmaceutical firms all over the globe have aggressively embarked on research and development of new medicines whose ultimate aim is to eradicate diseases, and relieve humans' suffering. Parallel to the aforementioned process, firms are seeking to support their human capital who is the driver of innovation, taking into consideration factors like employees' satisfaction, working conditions, organizational support, respect, and continuous development, which, among other factors, are considered determinants of



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behavioral intention that propels employees working at the pharmaceutical companies to stay. However, although pharmaceutical companies have worked hard on the retention of their human capital, which is considered a core competency in their declared endeavors, turnover rates are rising. This paper aims at exploring and assessing the different factors which are considered influential in retaining of employees working at Lebanese pharmaceutical companies. This research is exploratory and explanatory in nature; it uses quantitative analysis based on data gathered by a survey questionnaire administered to 204 employees who have experienced success or failure of being retained at their organizations in Lebanon. Resultant empirically researched retention model empowers the Lebanese pharmaceutical firms' current business models, and provides them with a basis for best successful practices to be implemented.

## Linda Shaker Berbari. MSc

Consultant - Nutrition and Infant and Young Child Feeding. Co-founder of LACTICA

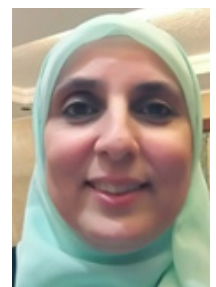


### **Breastfeeding in Lebanon: Supporting Mothers and Families**

Breastfeeding has been described as the "unequaled way of providing ideal food for the healthy growth and development of infants" (WHO & UNICEF, 2003). Breast milk is the natural source of nutrition for infants until six months, beyond which, complementary feeding in addition to breast milk become necessary. The Ministry of Public Health in Lebanon endorses the World Health Organisations recommendations of exclusive breastfeeding until 6 months of age and continued breastfeeding with complementary feeding until the age of 2 years or beyond. Rates of exclusive breastfeeding and breastfeeding in Lebanon fall short of these recommendations. The latest estimate for exclusive breastfeeding in Lebanon shows that only 14.8% of infants aged 5 months are exclusively breastfed (CAS & UNICEF, 2009). Barriers to breastfeeding include the widespread misconceptions related to breastfeeding amongst mothers coupled with gaps in support from health care providers (Nabulsi et al., 2014). There is a need to ensure that mothers are provided with adequate pre and post natal support related to the initiation and continuation of breastfeeding. Pharmacists are considered a reference for mothers and families in what relates to medical advice and therefore play a crucial role in supporting a mother's breastfeeding journey. The purpose of this presentation is to provide pharmacists with the latest updates on breastfeeding health outcomes and barriers, an overview of the main policies and guidance on breastfeeding in Lebanon including an overview on Law 47/2008.

## Luna Bizri. PharmD

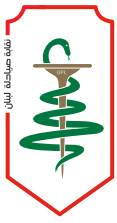
Community Pharmacist



### **How to Green my Pharmacy?**

In this era where international organizations, institutions and governments are joining their force to establish policies and recommendations to move toward a more "Green", "Ecofriendly" world, pharmacists should take more responsibility for changing the entire medication-use process so as to minimize the environmental effects of pharmaceuticals. In September 2015, FIP has issued a report discussing this issue and to provide the necessary tools and information to adopt a "Green Pharmacy".

This presentation addresses all pharmacy sections with recommendations and guidelines:



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hospital pharmacy, industrial pharmacy, and community pharmacy. It will also discuss present situation and current practice in Lebanon as well as many examples of practice all over the world. Promoting "Green Pharmacy" with citizens and government is also an important tool in this strategy.

At the end, future pharmacists must be educated to consider the environmental aspects of medicines use in their practice.

## **Bassem Abou Merhi. MD, Pediatrics**

Associate Professor of Clinical Pediatrics at the Lebanese University and President of Lebanese Pediatric Society



### **Nocturnal Enuresis**

The word enuresis is derived from a Greek word (enourein) that means "to void urine". The International Children's Continence Society [ICCS] restricts the term to wetting that occurs at night. Enuresis can be divided into primary enuresis (PE) and secondary enuresis (SE).

A child who has been continent for at least 6 months before the onset of the bedwetting is considered to have SE. The pathogenesis of PE is similar to that of SE.

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), classifies enuresis under the heading of elimination disorders as follows: Repeated voiding of urine into bed or clothes, whether involuntary or intentional.

The behavior either:

Occurs at least twice a week for at least 3 consecutive months or

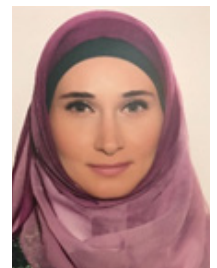
Results in clinically significant distress or social, functional, or academic impairment

The behavior occurs in a child who is at least 5 years old (or has reached the equivalent developmental level).

The behavior cannot be attributed to the physiologic effects of a substance or other medical condition.

## **Racha Sabbagh. PharmD**

PhD Researcher at the Kingston University London



### **Lebanese Patient Perception of Ambulatory Chemotherapy in Oncology**

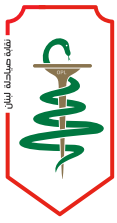
Ambulatory chemotherapy (AC), infusing chemotherapy through a portable infusion pump outside the hospital, became the standard of care for certain cancers in most developed countries.

In Lebanon, there has been a slow but successful uptake of AC. This study uses Everett Rogers' diffusion of innovation theory to provide a theoretical framework for AC in Lebanon, and aims at analyzing the factors influencing patient acceptance of AC.

A cross-sectional qualitative study gauging patient perception of AC, approved from Kingston University London ethics committee, was undertaken at 2 medical centers in Lebanon over 5 weeks. The audio recorded interviews were transcribed and translated into English, then coded and analyzed with NVivo software using inductive thematic analysis.

This paper focuses on four aspects of diffusion that are closely related with the acceptance of AC in Lebanon: (1) perceived characteristics of the innovation, (2)





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communication channels, (3) social system, and (4) time.

Patients were attracted to the partial trialability of AC within the hospital, but were unaware of its relative advantage and perceived it as difficult to handle (complexity).

Interpersonal network with the oncologist was the preferred communication channel, yet there was lack of social reinforcement from family members.

The cultural understanding of cancer as a stigmatized disease was a barrier for its uptake as carrying the pump increased cancer visibility.

The early adopters were provincial, and had a lower socio-economic and educational status, unlike Roger's classification.

Socio-cultural factors portrayed by the lack of patient empowerment, the paternalistic approach of care, and the stigma of cancer hinder the uptake of AC in Lebanon.

Pharmacists can play a major role in shaping the perceptions towards innovative chemotherapy services and nurturing patient empowerment. The established community pharmacist- patient relationship can be a major track to position the pharmacist as a patient advocate for care and improve overall health.

## Rhea Saad, PharmD, MBA

Senior Attending Clinical Pharmacist at the American University of Beirut Medical Center



### **Clinical Pharmacist in Oncology Care: Expanded Role and Growing Value**

Clinical pharmacists, the first medication experts, play an important role in optimizing patient health outcomes and improving medication safety, using their deep clinical knowledge to make a difference in the way patients manage their conditions. Historically, pharmacists have focused on critical operational roles in the pharmacy, with an emphasis on dispensing accurate and safe medications. Furthermore, as cancer therapies become more complex, as the population ages, and as the oncology drug market expands, the need for knowledgeable health care professionals has grown and the role of oncology pharmacists has expanded to encompass multiple value-creating tasks. Oncology pharmacists work closely with other healthcare professionals to deliver a wide range of clinical services to cancer patients with a primary focus on bridging the gap between international standards of care and local practices. These services comprise a wide range of activities and include the following: a) medication reconciliation; b) clinical review of drug prescriptions; c) pharmacist interventions documentation; d) therapeutic drug monitoring. Moreover, as cancer treatments become more targeted and personalized, patients are faced with a growing volume of complex information and are at risk of significant drug interactions. With the understanding and recognition of drug interactions and side effects, clinical pharmacists can provide: a) timely interventions and information to other health practitioners; b) counseling to patients, to emphasize on the importance of adherence, and ensure the continuity of medication management upon discharge.

Purpose and Learning objectives:

- The presentation aims to discuss the value created by clinical pharmacy services in hospital oncology practice as a priority area for medication safety and patient outcomes.
- After the presentation, the participants should be able to
- Apply the medication reconciliation process and evaluate its result on patients
- Describe the clinical review of drug prescriptions
- Conduct a therapeutic drug monitoring on narrow therapeutic index medications and document pharmacist interventions
- Provide patient counseling to ensure continuity of care after discharge



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## Maya Zeineddine. PharmD

Clinical Pharmacist. Multiple Sclerosis Certified Specialist at the Multiple Sclerosis Center - AUBMC

### **Disease Modifying Drugs in Multiple Sclerosis**

The purpose of this lecture is to update all community and hospital pharmacists regarding the new/old disease modifying drugs used in the management of multiple sclerosis since there is no available published guidelines on the treatment of this disease.

Upon completion of this activity, participants should be better able to:

- To distinguish the goals of therapy in multiple sclerosis (MS)
- To assess the disease – modifying drugs (DMDs) with regard to indication, dosage, administration and adverse events
- Discuss current evidence related to determining the appropriate sequencing of MS therapies for patients with early disease, progressive disease, or non-response to treatment
- Employ evidence-based strategies for switching therapies for patients who are experiencing breakthrough disease or not tolerating current treatment.



## Katia Iskandar. PharmD, MS

Chief Pharmacist at the Lebanese Canadian Hospital

### **Deprescribing in Elderly Patients**

Elderly patients are increased risk of polypharmacy related negative health outcomes including adverse drug reactions, drug-interactions, non-adherence, functional and cognitive decline, falls and increased healthcare expenditure.

Many medications need to be used with special caution in elderly patients because of age-related physiologic changes particularly decreased renal and hepatic function that in turn may affect drug pharmacokinetics and pharmacodynamics. A new stepwise approach to optimized prescribing of drug therapy for older adults is 'Deprescribing'

The term 'Deprescribing' is used to describe a systematic, patient-centered multidisciplinary approach that is the comprehensive process of tapering, stopping, discontinuing or withdrawing drugs, with the goal of managing polypharmacy and improving outcomes.

Deprescribing requires a high level of coordination and communication between the pharmacist and other healthcare providers in order to prevent potential consequences of medication withdrawal and minimize drug related potential harms through proper planning, monitoring and reinitiating of the medication if the patient condition returns. Despite many barriers to deprescribing including uncertainty about the benefits, harms of continuing and discontinuing specific medications, fear of adverse effects, community and professional attitudes toward more rather than less use of medications, and limited consultation time, pharmacist contribution whether in the community or in the hospital setting, is particularly crucial in optimizing safe medication use in elderly patients.

