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The President of the Lebanese Republic

General Michel Aoun

The Lebanese Order of Pharmacists

organizes its 26th Annual Congress under the theme

Teaming Up for Excellence in Patient Care

معا للتميّز في رعاية المريض

نقابة صيادلة لبنان
ORDER OF PHARMACISTS OF LEBANON

ABSTRACT BOOK | Beirut Hall

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Gastroretentive Drug Delivery Systems: A New Approach for Enhancing Drug Bioavailability

May Saab, BS Pharm, PhD

Biography: Dr. May Saab received her B.S. degree in Pharmacy from Beirut Arab University in 2003 and a Master degree in pharmaceutical technology in 2009. Based on her high academic performance she was granted a Ph.D. degree scholarship from BAU in pharmaceutical technology in 2010. Dr. Saab had previous experience for over 3 years as a medical representative in a very well established pharmaceutical company. She joined the faculty of pharmacy at BAU as part time teaching assistant in 2003, and then promoted to a lecturer in 2009 and an assistant professor in 2016. She is a member in the academic committee at the Order of Pharmacists of Lebanon, and a member in the pharmacy colloquium committee at the ministry of education and higher education since 2016. Her research interests cover the field of polymers and modified release drug delivery systems. She has published several research articles in the field of sustained/controlled and gastroretentive drug delivery systems.

Abstract: The aim of the proposed topic is to widen the pharmacist knowledge about gastroretentive drug delivery systems and highlight their importance in the delivery of certain drugs. Such systems are gaining more popularity in the market of foreign countries, whereas in Lebanon they represent very few commercial products. Sustained drug delivery systems via oral route have gained much interest for many years, as it is considered the most common and convenient way for drug administration and patient compliance. However, the bioavailability of oral drugs can be influenced by many variables, such as drug solubility, transit time through the gastrointestinal tract, and main absorption site. Therefore, gastroretentive (GR) drug delivery systems are quite advantageous. A prolonged gastric retention is favorable for drugs that are poorly soluble in the intestine, and drugs that show maximum absorption from stomach or upper part of small intestine. Different approaches in developing GR systems have been previously reported, namely, high and low density systems, mucoadhesive, and expandable systems. Among these, floating drug delivery systems are the most widely studied and commercially available in the market. Several techniques were used to formulate floating GR drug delivery systems. These include the incorporation of effervescent or low density materials. In addition, freeze and spray drying techniques were recently adopted to produce porous and hollow tablets with inherent low density formulations. Based on the literature, it was concluded that gastroretentive drug delivery systems offers various potential advantages. They maximize the absorption of certain drugs and enhance its bioavailability.

Pharmaceutical Nanostructures: From Research Labs to Clinics

Mohammed Mehanna, PhD

Biography: I had my Ph.D. Degree in Pharmaceutical sciences in Jan 2011, the thesis entitled: "Study of Some Pharmaceutical Carriers as Vehicle for Drug Delivery". In September 2017 I got promoted to Associate Professor. I'm interested in pharmaceutical nanotechnology and non-invasive drug delivery systems with a particular emphasis on tailoring liposomes and nano-carriers for various drugs through different routes of administration. I'm expert in elaboration and appraisal procedures and techniques of nano- and micro-sized pharmaceutical carriers among them; nanoliposomes, nanoparticles, nanocrystals, nanocapsules, microporous silica and micelles. Mathematical optimization and assessment of delivery systems covers various routes of administration viz. oral, transdermal, pulmonary and ocular is considered an area of my specialty. I supervised several master and PhD theses concerned with nanotechnology application in drug delivery and pharmacology in addition to several PharmD theses. I published over twenty original research articles in highly ranked specialized journals. I'm serving as a consultant editor in chief for the international journal of nanomedicin. Moreover, I'm a member of editorial board for manly scientific journals and reviewers for most of the high ranked pharmaceutical journals.

Abstract: In recent decades, nanotechnology has been considered to be one of the most promising drug delivery strategies. Nanotechnology is the science used in creation of materials on the nanometer scale, while nanomedicine is the applications of nanotechnology in medicine for diagnosis, treatment and prevention of diseases using molecular tools and molecular knowledge of the human body. Nanotechnology opens a new avenue in drug delivery represented by the widespread utilization of nanocarriers in various routes of administration such as polymeric nanoparticles, nanoemulsions, liposomes, solid-lipid nanoparticles, niosomes, nanocrystals, nanosuspensions and nanocapsules. Therapeutic and diagnostic agents can be encapsulated, covalently attached or adsorbed on to such nanocarriers. State-of-the-art of the theranostic applications of the nanocarriers globally and in Arab world is highlighted. The employment of nanotechnology to drug delivery are widely expected to change the landscape of pharmaceutical and biotechnology industries for the foreseeable future.

The Importance of Inventory Management in Pharmacy Settings

Farah Chehimi, BS Pharm, MBA, DBA

Biography: I am a pharmacist, who is pursuing my Doctorate studies in business management, leadership and entrepreneurship, as a part-time student in the UK with an expected graduation in December, 2018. I have been a part-time instructor at the Lebanese International University since the Fall of the academic year 2012-2013, in both of the School of Business and the School of Pharmacy. I have been giving courses related to pharmacy management and marketing, in addition to pharmaco-economics for 6 years. Before I started lecturing, I worked for a pharmaceutical company currently known as Acino (ex-Mepha), in which I was directly and abundantly exposed to the Lebanese pharmaceutical market for 5 years. I was in position of marketing medications, managing Bekaa area, constantly studying and evaluating competitive drugs and markets, in addition to delivering regular seminars.

Abstract: Among the essential eight roles of pharmacists that are described by the World Health Organization and the International Pharmaceutical Federation, managing resources (money, products, human resources, time, and information) is a key factor to professional success on individual level, as well as organizational level (Wiedenmayer K. et al., 2006). In pharmacy operations, inventory is referred to as the stock of pharmaceutical products retained to meet future demand. Inventory represents the largest asset in pharmacy practice, and its value continues to increase because of the growth in the diversity and cost of pharmaceutical products (Desselle S. & Zgarrick D., 2009). From both financial and operational perspectives, efficient inventory management plays a great role in pharmacy practice. Considering the financial perspective, efficient inventory management increases gross and net profits by reducing the cost of acquired pharmaceutical products and related operational expenses. Moreover, upon saving on purchasing and storing less costly products, the cash flow increases, which can be used to invest in other services or to pay for operational expenses. From the operational perspective, effective inventory management ensures meeting and satisfying customer and prescriber demands. Unavailability of a product when needed may cause the community pharmacy to lose a customer, creates inconveniences to the prescriber; and may adversely affect patient's wellbeing in hospital pharmacy settings when the product is an essential lifesaving one. Besides the negative effects on financial and operational outcomes, inventory mismanagement could have harmful consequences on patients' safety if products are expired, counterfeit, substandard or spoiled. Therefore, due to the importance of inventory management in pharmacy settings, this presentation will highlight the impact of inventory mismanagement on patients' safety and on the community pharmacies financial and operational conditions. It will also review methods of inventory management in pharmacy practice, and shed a light on the approaches by which the process of inventory management is evaluated, and the factors affecting inventory management.

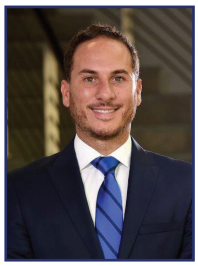
SRM: Supplier Relationship Management

Youssef Akiki, PharmD, MBA, DBA

Biography: Youssef Akiki is a chief pharmacist at St Georges Ajaltoun Hospital with a PharmD, Master in Pharmacology, Pharmaceutical MBA and recently a Doctorate in Business Administration (DBA) degrees. He has been devoted to explore managerial skills for pharmacists in their fieldwork and how they can be linked to their clinical knowledge. He is also a researcher and consultant for such related projects and he believes that sharing knowledge is an essential tool for continuous improvement.

Abstract: In the last ten years, supplier relationship management (SRM) has been more explored within the procurement profession.
SRM is a new tool for firms to capture more value and improve performance from the supply chain.
"Supplier relationship management" that is applicable in both community and hospital pharmacy and even in any pharmacy profession where procurement is present.
I am willing to explore this subject from many points of view and add my personal experience in order to share it with my colleagues by presenting them a tool for evaluation that could be useful in their daily work.

Updates in Infectious Diseases - Clinical Pearls



Wissam Kabbara, PharmD, BCPS-AQ ID

Biography: I graduated with a Pharm.D. degree from the Lebanese American University in 2006 and completed a PGY1 pharmacy practice residency training with emphasis on infectious diseases at St. Alexius Medical Center, Bismarck, North Dakota, USA. I have been teaching pharmacotherapy of infectious diseases at the Lebanese American University since 2008 and I'm the course coordinator of Pharmacotherapeutics V (infectious diseases module). I completed a 6-month Clinical Research Training course at Harvard Medical School.

I'm a board certified pharmacotherapy specialist with added qualifications in infectious diseases (by the board of pharmacy specialties of the American Pharmacists Association).

I have numerous publications in infectious diseases in reputable journals.

I also precept Pharm.D. students on the infectious diseases and internal medicine rotations since 2008 and I'm an active member of the antimicrobial stewardship committee at the Lebanese American University Medical Center- Rizk Hospital.

Finally, I'm the outgoing chair of the school research committee at the Lebanese American University School of Pharmacy.

Abstract: The overall purpose of this educational activity is to present from a clinical pharmacist's perspective the recently updated treatment guidelines for the treatment of: Clostridium Difficile infection, hospital-acquired and ventilator-associated pneumonia (HAP and VAP), and Candidiasis.

Antimicrobial stewardship in the management of these infections will be emphasized and discussed according to Lebanese microbial susceptibility data.

Clinical and Economic Impact of Urinary Tract Infections Caused by Escherichia coli Resistant Isolates

Katia Iskandar, PharmD, MHS, AMES

Biography: She holds a PharmD degree (1996) from the Lebanese University (UL), Dekwaneh, Lebanon and two International Master's Degrees: "Management de L'Hôpital et de la Santé" (MHS) and Master 2 « AMES - Analyse et management des établissements de Santé, Paris Diderot-Paris 7 and (EHESP) (Ecole des Hautes études en Santé Publique) validated by the French Ministry of Education.
She is currently a Registered Pharmacist (RPh) at the Order of Pharmacists of Lebanon (OPL) and the chair of the Hospital Pharmacists scientific sub-committee.
She was selected as a subject expert by the Lebanese Minsitry of Health as part of the TrAcc Project (Transforming Hospital Accreditation System in Lebanon).
She participated successfully to two hospital accreditations processes assigned by the Ministry of health and I got a very good ranking.
She is the chief pharmacist of the Lebanese Canadian Hospital and the chair of the 'Pharmacy and Therapeutic committee' and 'Patient Safety and Security' committee" as well as member of the 'Infection control committee'.
Since 2004, she is a part time Clinical Assistant Professor at the Lebanese International University (LIU) - School of Pharmacy.
She is currently registered in first year doctorate program at Paul SABATIER University-Toulouse, EDMITT, INSERM laboratories.

Abstract: Escherichia coli, a bacterium naturally found in the gastrointestinal tract, is the most frequently isolated gram-negative pathogen and a major cause of community and hospital acquired urinary tract infections (UIT) in the world of health organization (WHO) regions. Evidence shows that the emergence of E coli isolates resistant of third-generation cephalosporins, fluoroquinolones or carbapenems, or simultaneously to the combined antimicrobials carries a risk of pooper clinical outcomes. In Lebanon, E. coli urinary isolates is a growing public health problem that is spreading over the whole country. Antimicrobial resistance is rapidly evolving in the absence of related national surveillance centers to monitor trends of antibiotic consumption and patterns of antimicrobial resistance.
Although Global rates of infections vary considerably by region, the growing prevalence of this uropathogen, has been associated with high economic and health burden. Data on the economic burden of UTIs due to E coli is still scarce, related studies are narrow in their focus and may suffer from bias reducing generalizability of findings.
The type of infection can nearly equally arise from the community as well as from the hospital settings which highlights the need to strengthen surveillance of resistance and develop a national healthcare policy that targets both sectors. Improving clinical pathways and disease outcomes of this potentially avoidable condition can be through optimizing antibiotic prescription and implementing antibiotic uses polices and guidelines adjusted according to local epidemiological data in addition to encouraging infection control initiatives in order to reduce healthcare costs and efficiently join global initiatives to contain antimicrobial resistance.

The Importance of Infection Prevention and Control Measures at the Lebanese Hospitals

Ahmad Dimassi, BSc, RPh, PharmD, MSc

Biography: Dr. Ahmad Dimassi is a clinical assistant professor and the clinical pharmacy practice coordinator at the School of Pharmacy at the Lebanese International University (LIU). He has conducted many clinical studies in collaboration with other healthcare providers in the field of epidemiology, public health, biostatistics and infectious diseases. He has published several articles in many peer-reviewed journals, and had oral presentations and scientific posters at both local and international conferences.

In his professional career, Dr. Ahmad possesses over ten years of experience in community pharmacy setting and has held the position of Hospital/Oncology Pharmacist at Rafik Hariri University Hospital for two years, additionally he is a member of the International Pharmaceutical Federation (FIP).

Dr. Dimassi holds a master degree in Clinical Pharmacy and Pharmaco-epidemiology from the Lebanese University, Doctor of Pharmacy (PharmD) from the Lebanese International University and Bachelor of Science degree in Biochemistry from the Lebanese University.

His role as a professor and a health care professional, has given him an extensive clinical knowledge to improve the overall health of the community.

Abstract: Infection Prevention and Control (IPC) measures are related to medical practices that prevent or minimize spreading of infectious diseases. The purpose of this study was to evaluate the effect of IPC measures on the length of hospital stay (LOS) of patients in infectious diseases service at Lebanese hospitals.

A prospective cohort study in two Lebanese hospitals was conducted between January 2017 and July 2017. Adult patients of both genders aged over 18 years, admitted to the intensive care, internal medicine or surgical wards, with positive bacteria cultures and treated with antibiotics were eligible to be enrolled in the study. The primary outcome was to assess the effect of IPC measures of each hospital on the mortality and total LOS. Bivariate and multi-variable analyses were used to identify the statistical associations.

A total of 369 patients were enrolled in the study. Patients at the hospital with lower IPC measures had an additional LOS of 2±2.73 days and higher rate of mortality (OR= 2.55 ±1.48-4.39, $p<0.001$) when compared to the hospital with higher IPC measures ($p= 0.106$). Multi linear regression showed that the hospital with higher IPC measures was associated with significant shorter LOS ($p<0.001$).

Applying high standards of IPC measures can improve healthcare system at Lebanese hospitals.

Antimicrobial Stewardship Program in a Neonatal Intensive Care Unit

Therese Saad, PharmD, BCPS, BCPPS

Biography: Therese Saad is a Board Certified Pharmacy Specialist serving mainly pediatric and neonatal intensive care. She is the Pediatric Clinical Pharmacy Team. Leader in the Pharmacy department at the American University of Beirut Medical Center - Lebanon.

Dr. Saad hold a Doctor of Pharmacy from Saint Joseph University - Beirut. Prior to joining AUBMC in November 2002, she completed one-year residency in Hospital and Clinical Pharmacy at Hotel-Dieu De France – Beirut.

Dr. Saad has over 15 years extensive experience in Hospital and Clinical Pharmacy at AUBMC with focus on Medication Therapy Management and high quality Pharmaceutical care especially in areas related to Total Parenteral Nutrition and Therapeutic Drug Monitoring in Pediatrics and Neonatology.

Dr. Saad is the first pharmacist in Lebanon to achieve Board Certification in Pediatric Pharmacotherapy since December 2017. In addition, she has been board certified in Pharmacotherapy since 2009.

Dina Itani, B.S.Pharm, MPH, R.Ph.
Senior Attending Clinical Pharmacist – Pediatric Team - American University of Beirut Medical Center

Biography: Mrs. Dina Itani earned her Bachelor's degree in Pharmacy at Beirut Arab University, Lebanon in 2009 and her Master Degree in Public Health concentration Health Management and Policy at American University of Beirut, Lebanon in 2018. She did her training as a Pharmacy Intern at Makassed General Hospital and Rafik Hariri University Hospital, Beirut, Lebanon. Ms. Itani joined the American University of Beirut Medical Center – Pharmacy Department in 2010 as a hospital pharmacist. In 2012, she took the position of attending clinical pharmacist. In 2015, she was promoted to senior attending clinical pharmacist in the Pediatric Team. Ms. Itani is a member of several hospital committees including Delivery Suit Collaborative practice team committee. Ms. Itani has been selected as Epic super user in Willow team to support the transition of the pharmacy team during Epic launching. Ms. Itani is also acting as a clinical trial coordinator responsible to ensure proper implementation of clinical trial according to JCI requirement, to handle drugs appropriately to research assistant and to ensure proper storage condition for the investigation product. Ms. Itani has given a variety of presentations to pharmacists, and medical residents on a local level. She is an active member of The Order of Pharmacists of Lebanon.

Abstract: Antimicrobial stewardship is recognized as a critical patient safety and quality imperative to combat the emergence of antimicrobial resistance (AMR) and preserve the activity of existing agents. The primary goal of antimicrobial stewardship is to optimize clinical outcomes while minimizing unintended consequences of antimicrobial use through timely and appropriate antibiotic utilization for hospitalized patients.

Antibiotics are among the most commonly prescribed medications in neonatal intensive care units (NICU). Neonates are exposed to antibiotics both before and after birth, often empirically because of risk factors for infection, or for non-specific signs which may or may not indicate sepsis. For instance, antimicrobial resistance has been postulated to be responsible for about 30% of deaths from neonatal sepsis worldwide, primarily-in low and middle-income countries. When standard antibiotics are no longer effective, second- and third-line antibiotics are required, with potential delays in effective therapy, increased morbidity and mortality, adverse effects and costs. Accordingly, applying antimicrobial stewardship program (ASP) in the Neonatal Intensive Care unit is crucial to encourage the judicious use of antibiotics, improve patient outcomes, decrease microbial resistance and reduce the spread of infections caused by multidrug-resistant organisms.

The objective of our study is to evaluate antimicrobial utilization in the NICU at American University of Beirut Medical Center after implementation of ASP. We retrospectively measured days of therapy per 1000 patient days (DOT/1000 PD) in the NICU during the pre-implementation (calendar year 2015) and post-implementation phase (2017-2018) to determine the change in antimicrobial utilization. All antimicrobials administered between January 2015 to December 2015 and July 2017 to July 2018 were included in the review. Quarterly use by unit expressed in mean DOT/1000 PD was used for evaluation.

Implementation of a NICU stewardship program helped optimize the utilization of ampicillin, gentamicin, vancomycin and meropenem for the treatment of late and early onset sepsis in neonates in the NICU without increasing morbidity and mortality.

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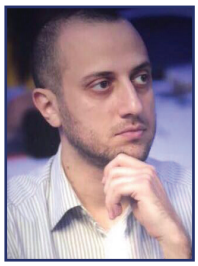
Febrile Neutropenia in Cancer Patients



Rabih Hallit, MD

Biography: Dr Hallit received his medical degree from Saint-Joseph University in 2007 and his internal medicine and infectious disease diplomas from Seton Hall University - New Jersey - USA, in 2011 and 2013 respectively. He is American Board Certified in Internal Medicine and Infectious Disease, and an Associate Professor of Medicine at the Holy Spirit University of Kaslik – USEK.
He practices at Notre Dame des Secours University Hospital - Jbeil, Bellevue Medical Center - Mansourieh, and Bhannes Medical center.
He is active in research and has more than 25 published articles.

Abstract: This lecture will discuss the following:
1- Define febrile neutropenia according to IDSA guidelines.
2- Identify the risk factors for febrile neutropenia and stratify patients into low or high risk group.
3- Identify the clinical signs & symptoms and most prevalent microbiological etiology of febrile neutropenia.
4- Recommend appropriate empirical antimicrobial therapy (drug(s), dose(s), and duration) for low-risk and high-risk febrile neutropenic patients.
5- Recommend appropriate monitoring parameters for both efficacy and toxicity of the prescribed antimicrobial agents.
6- Construct an individualized treatment plan for patients taking into account the clinical signs and symptoms, and persistence of fever and/or neutropenia.
7- Recommend appropriate antibacterial, antifungal, and antiviral prophylaxis (when indicated) for patients with cancer.

Cancer Treatment Toxicities in Solid Tumors and Role of Pharmacist in Monitoring

Alissar Ghaddar, PharmD

Biography: Dr. Alissar earned her Bachelor's degree in Pharmacy at the Lebanese American University, Byblos-Lebanon in 2013and her Doctor of Pharmacy degree (PharmD) at the Lebanese American University in 2014. She did her training as a Pharmacy Intern at the Methodist Hospital, Houston, Texas from February 2013 till June 2013. During that year, she completed the clinical rotations in LAU Medical Center – Rizk Hospital, an industrial rotation at Benta pharmaceuticals and a regulatory affairs rotation at the Lebanese Ministry of Health. Dr. Alissar joined the American University of Beirut Medical Center – Pharmacy Departmentin2013as an attending clinical pharmacist in the oncology team. In 2016, she was promoted to senior attending clinical pharmacist. Her duties include participating in clinical rounds, intervening and documenting therapeutic drug monitoring, providing patient education for nurses, pharmacists, and physicians, and processing chemotherapy orders. She is also responsible for the training of new pharmacists and interns. Dr. Alissar is a member of several hospital committees including the Saint Jude Children Cancer Center Outpatient Flow working group. She participated in different workshops at AUBMC with the Human Resources department. She is an epic super user providing consistent end user support during pre- during and post go live period. Dr. Alissar has given a variety of presentations on a local, and national such as the Lebanese Society of Medical Oncology, the Annual Beirut Breast Cancer Conference, and poster presentation at the European Conference of Oncology Pharmacists. She is an active member of the Order of Pharmacists of Lebanon.

Abstract: Over the years, scientists were searching for the most effective ways to treat cancer. The huge milestones were radiation therapy and chemotherapy. In the early 2000s research and mapping of the human genetic code led to the exploration of new novel approaches to treat cancer as targeted therapies and immunotherapy.
Chemotherapy treats several types of cancer successfully. These drugs affect active cells at different stages of the cell cycle that can be either cancer cells or healthy cells. Thus, side effects occur when chemotherapy targets healthy cells and causes damage.
Furthermore, researchers learned with time that certain gene changes happen in certain cancers, leading to the development of drugs that target these changes. There is an increasing trend towards the use of oral targeted therapies to treat cancer especially in solid tumors. Oral targeted therapies include kinase inhibitors consisting of vascular endothelial growth factor (VEGF) and vascular endothelial growth factor receptor inhibitor (VEGFR) that can be used in lung cancer. Other therapies include CDK4/6 inhibitors used in breast cancer.
Patients need to be counseled on the safe handling of their medication and get a complete understanding on how to identify, manage, and report side effects
On the other hand, immunotherapy has proven its role in treatment by stimulating the immune system to fight cancer cells. The main types include the monoclonal antibodies and the immune checkpoint inhibitors. Like chemotherapy, both immunotherapy and targeted therapies cause side effects that can lead to a number of toxicities.
Patients need to be counseled on the safe handling of their medication and get a complete understanding on how to identify, manage, and report side effects.
The goal of this presentation is to highlight on toxicities of cancer treatments used in solid tumors. Revolution in cancer treatments requires adequate patient education, monitoring, and support from healthcare team that will lead to excellence in patient care.

Case Control Study about the Risk of Pancreatic Cancer with Dipeptidyl Peptidase-4 Inhibitors in Lebanon

Jihan Safwan, PharmD

Biography: Dr. Safwan is a clinical associate professor and is the chairperson of the biomedical sciences department at the school of pharmacy in LIU. She is an American Society of Health System Pharmacists member. She has attended multiple national and international conferences, where she presented multiple accredited lectures and scientific posters. Her role as both, a professor and a health care professional, has given her a broad clinical experience to play an active and effective role in the community.

Abstract: Pancreatic cancer is one of the deadliest malignancies worldwide. Risk factors associated with this disease are long-term diabetes and smoking. Since, the risk of pancreatic cancer associated with incretin based therapies is controversial, we conducted this study to evaluate the risk of this type of cancer with dipeptidyl peptidase-4 (DPP-4) inhibitors that are relatively a new class of oral antidiabetic medications.

A retrospective case-control study was conducted between January and April 2018 among Lebanese diabetic patients. The Institutional Review Board of the Lebanese International University approved the study protocol in December 2017. Recently diagnosed pancreatic cancer cases were recruited from multiple hospitals across Lebanon while controls from hospitals and clinics in a 1:4 ratio. Patients with any type of cancer that has metastasized to the pancreas or those who were on a DPP4-inhibitor for less than one year were not included in the study. Pre-established questionnaires were then filled via a medical chart review covering patient demographics, comorbidities, laboratory values and medications. Bivariate and multivariable analyses were conducted to assess the relationship between DPP4-inhibitors and pancreatic cancer while adjusting for potential confounders. A p-value less than 0. 05 was deemed statistically significant. The study included 625 patients of whom 125 cases (mean age 67. 9 ± 11. 1 years) and 500 controls (mean age 61. 8 ± 30. 2 years). The bivariate analysis identified multiple significant differences between cases and controls, cases being less physically active, less dyslipidemic, more hypertensive, and had a longer history of diabetes. The multivariable analysis showed a statistically significant association between pancreatic cancer risk and the following factors: physical activity [adjusted odd's ratio (aOR)=0. 37], hypertension (aOR=2. 28), dyslipidemia (aOR=0. 46), history of diabetes (aOR=1. 12), DPP4-inhibitors (aOR=0. 33), insulin therapy (aOR=4. 38) and sodium-glucose co-transporter-2 inhibitors (aOR=0. 14). The odds of pancreatic cancer were higher with rapid acting (aOR=7. 56) than long acting (aOR=2. 95) insulin and lower with vildagliptin (aOR=0. 16) than sitagliptin (aOR=0. 53).

Role of Pharmacist in Cancer Survivorship: Living with and Beyond Cancer

Fatima Ismail, BS Pharm

Biography: Ms. Fatima Ismail earned her Bachelor's degree in Pharmacy at Beirut Arab University in 2009. She directly started her career as an oncology-hospital pharmacist at Rafik Hariri University Hospital, in addition to being appointed as a graduate assistant and preceptor for Professional Pharmacy Practice in the Faculty of Pharmacy at Beirut Arab University.
In 2011, Ms. Ismail joined the American University of Beirut Medical Center – Pharmacy Department as an attending clinical pharmacist in the oncology team. She was promoted to senior attending clinical pharmacist in 2014. She is currently the pharmacy representative on the Bone Marrow Transplant (BMT) collaborative practice team and a member of the BMT and Hematology Order Set committee. She serves as well as the Preceptor for the BMT Elective Rotation for the PGY1 Pharmacy Residency Program at AUBMC. Ms. Ismail has been assigned as a subject matter expert on Beacon Module and has contributed to the validation of treatment plans and medication build.
Ms. Ismail has given a variety of presentations to pharmacists and nurses through local and national events. She is an active member of professional societies including The Order of Pharmacists of Lebanon, American College of Clinical Pharmacy (ACCP), American Society of Health System Pharmacists (ASHP) and American Society for Blood and Marrow Transplantation (ASBMT).
Her professional interests include supportive cancer care, hematopoietic stem cell transplantation, hematological malignancies, and drug information and drug practice management.

Abstract: Survivorship focuses on health and the physical, psychological, social and economic issues affecting people after the end of the primary treatment for cancer. Post treatment cancer survivors range from people having no disease after finishing treatment, people who continue to receive treatment to reduce the risk of the cancer coming back and people with well controlled disease and few symptoms, who receive treatment to manage cancer as a chronic disease.
Survivorship care includes issues related to follow-up care, the management of late side-effects of treatment, the improvement of quality of life and psychological and emotional health. Survivorship care includes also future anticancer treatment where applicable. Family members, friends and caregivers should also be considered as part of the survivorship experience. Survivorship is a unique and ongoing experience, which is different for each person and those close to them.
A key to survivorship is to regain, as far as possible, the important aspects of patient's life before cancer, and to find new pathways to a satisfactory life going forward.
There is substantial variation in survivorship care models. The optimal nature, timing, intensity, format, and outcomes of survivorship care models are uncertain and require further research. Specific research questions need to be addressed by the survivorship community to better understand the advantages and limitations of survivorship models.
Guidelines on Survivorship is created by European Society for Medical Oncology (ESMO), National Comprehensive Cancer Network (NCCN) and American Society of Clinical Oncology (ASCO) in order to help patients at this important time in their life.
It is important for the pharmacists to be involved right with the patient at the beginning of diagnosis of cancer till the end and celebration of their last dose of chemotherapy. We need to make sure that we know what the plan is afterwards.
The role of clinical and community pharmacist is important in spreading awareness and best practices to support the patient in coping with the new reality, life after initial treatment, preventive health, and follow-up care and thus enables keeping a personal health record / survivorship care planning.
There are still areas for growth in oncology pharmacy. Opportunities include having a greater presence in ambulatory clinics, infusion centers, and other settings; developing medication therapy management services; developing prescribing protocols; and being involved in cancer prevention and survivorship. The profession continues to expand as the pharmacists become invaluable members of the cancer care team.

The Importance of Continuing Professional Development in Pharmacy Practice

Mahendra G Patel, BPharm, PhD, FRPharmS Alumni Fellow NICE FHEA

Biography: Pharmacist and senior academic fellow with a national and international profile. He is an elected UK Board Member and Treasurer for the Royal Pharmaceutical Society for the pharmacy profession. Other roles include being Honorary Senior Lecturer Medical School University of Sheffield, and Adjunct Professor of Pharmacy Wilkes University Pennsylvania USA. He was also appointed as one of the first of 10 Fellows of the National Institute of Health and Care Excellence (NICE) in 2010 and for many years has been an advisory member of various panels and committees of NICE.

Abstract: In Great Britain it is a legal requirement for all pharmacists to be registered with the General Pharmaceutical Council (GPhC). This year the GPhC introduced a new process that all pharmacists must comply with to remain on registered - the biggest change in the industry for years. Pharmacists in all sectors including the largely community-base are highly concerned about this change as their livelihoods are potentially at risk.
This presentation will describe:
- What does CPD mean?
- What are the requirements for revalidation?
- How are pharmacists supported to meet the regulatory criteria?
- What is an unplanned CPD?
- How do records stored and submitted?
- Providing support to those on maternity leave

Knowledge of Pharmacists and Parents Towards Antibiotic Use in Pediatrics: A Cross-Sectional Study in Lebanon

Souheil Hallit, PharmD, MSc, MPH, PhD

Biography: Dr. Souheil Hallit has a Doctor of Pharmacy, Masters in Pharmacology and Therapeutics, Masters in research in Clinical Pharmacy and Pharmacoepidemiology and a PhD degree in Public Health and Epidemiology. He is American Board certified in two states (Florida and New Jersey). Assistant professor at the Faculty of Medicine and Medical Sciences, Holy Spirit University Kaslik (USEK), where he teaches pharmacology, epidemiology and research methods courses. He is also a member of the OPL scientific committees. He has 82 published articles so far, with his main research interests focusing on asthma, allergic and atopic diseases in children, along with medical epidemiology, clinical pharmacy, psychology and public health research.

Abstract: To assess factors associated with knowledge of children's (≤12 years) parents and community pharmacists regarding the use of antibiotics in pediatrics.

A cross-sectional study was conducted between June and August 2017 in community pharmacies. A pre-established questionnaire targeting knowledge of parents and pharmacists regarding antibiotics use/misuse was carried out. An index of knowledge was computed to assess factors associated with good knowledge on antibiotics use/misuse.

The study showed that 28.7% of pharmacists did not know which factors may contribute to antimicrobial resistance. Concerning the misuse of antibiotics, pharmacists blamed at first parents (90.1%), at second level physicians (72.8%), and third themselves (59.4%). Furthermore, pharmacists believed that the socioeconomic problems of the country (86.1%), the level of resistance to the molecule of choice (80.8%), the lack of consultation time (71.2%) and the lack of national guidelines/recommendations (66.3%) might be additional factors contributing to antimicrobial resistance. In case of acute otitis media, the majority of pharmacists chose the correct treatment, dose and duration according to international guidelines; this was in contrast to the results obtained in case of pharyngitis. Female pharmacists had a significantly higher knowledge score compared to their male counterparts (ORa=2.51). Half of parents (42.6%) declared that antibiotics act against both viruses and bacteria, 55.9% still believe that the presence of fever requires the administration of antibiotics, 50% didn't know the consequences of antibiotics misuse, 58.4% said that it is okay to give their child antibiotics without a physician's advice and/or based on a pharmacist's recommendation, and 66.7% trusted the pharmacist in the antibiotic prescription. Parents with a university level of education or a master's degree would significantly have better knowledge compared to illiterate ones (ORa=9.04 and ORa=16.46, respectively).

Based on the results obtained, it would be necessary to implement educational campaigns in order to increase awareness on antibiotics misuse and resistance in pediatrics.

Health Promoting Schools, a Review of the Approach and its Challenges: The Need of a National Lebanese Survey

Marwan Akel, PharmD, MPH, PhD Candidate

Biography: He holds multiple degrees, including: a BS in biology (2004) from the American University of Beirut (AUB), a pharmacy BS (2007) and a PharmD (2008) from the Lebanese American University (LAU), a Masters in Public Health MPH (2015) from the Lebanese University. Currently, I am a PhD candidate in Epidemiology at Paul Sabatier University, Toulouse III. I am a registered pharmacist (RPh) in the Lebanese Order of Pharmacists (OPL), and a member of the scientific OPL committee, the American Society of Health System Pharmacists (ASHP), and The Federation Internationale Pharmaceutique (FIP), where I am part of the Harm Reduction Working Group. I am a clinical assistant professor (2008 till present) pursuing teaching as my career along with working as a senior community pharmacist in one of the most known community pharmacies in town (2007-2010). I am currently a Pharm D preceptor; I have earned an experience as a course instructor, clinical/community pharmacy preceptor, laboratory coordinator and student advisor. In addition to that, I have performed multiple School of Pharmacy-related tasks and participated in different committees, along with communicating with hospital directors and university research councils and organizing awareness campaigns. Throughout my pharmacy studies and work in academia and community pharmacies, I have had 10 years of experience in active research in clinical and community settings, public health and awareness. In 2008 I was awarded as the most active outreach community pharmacist of my class. Since then, I have presented my research in different national and international conferences, along with multiple publications in many renowned journals.

Abstract: Schools play an important role in health promotion among children and adolescents, who carry their lifestyles, attitudes and behaviors into adulthood. Health promoting schools (HPS) have three key characteristics including school curriculum, environment or ethos, and families or communities. The HPS framework is a whole-school approach that implements a systematic plan for the health of all children and staff. The implementation of health promotion program at schools is on-going and cyclical process that fits into five phases starting with commitment and support and ending with continuous monitoring and evaluation. Unfortunately, HPS programs face many challenges such as inconsistent health messages, short-term health interventions, resistance to health messages, and the potential of these interventions to do harm more than good. In the absence of similar studies, we are willing to conduct an observational prospective study to evaluate the health programs and policies adopted at different Lebanese schools. In conclusion, school-based health-promoting programs may provide an efficient and effective way to approach health problems among children and adolescents.

Role of the Pharmacist in the Quality Assurance

Maya Farran, PharmD

Biography: Maya Farran, holds a Pharm D Degree from Saint Joseph University. Currently holding the position of Head of Pharmacy, Warehouse and Procurement departments at Hammoud Hospital University Medical Center, directing Pharmacy and Purchasing departments aligning them with new standards for the JCI accreditation.
Part Time instructor at the LIU, School of Pharmacy and Certified Trainer in the Middle East and North Africa Region.
Previously Country Manager of Arwan Pharmaceutical Industries, with a global experience in management, sales and marketing.

Abstract: Patient safety remains the primary challenge of all healthcare providers, particularly pharmacists.
Patient safety is a discipline that emphasizes safety in health care through the prevention, reduction, reporting, and analysis of medical error that often leads to adverse effects and Quality Assurance (QA) is the key to establish this discipline.
Quality is not optional anymore and delivering quality service and or product is not an added value. It's nowadays and essential basic requirement in the current competitive market and highly knowledgeable patients.
Quality assurance is the process of verifying whether the product meets the required specifications and the patient's expectations. The process provides consistency of results and a systematic approach independently of the human variability.
Quality assurance should be an embedded part of every aspect of pharmacy related institutions, starting from the schools of pharmacy, to the pharmaceutical industries, community pharmacies and definitely hospital pharmacies.
Quality Pharmacists play a critical role in assuring quality medication, quality service and quality counseling.
Pharmacists are required to implement a continuous quality improvement plan. The road map to improve the quality starts by putting clear standards and procedures, assess the implementation, determine what causes the errors, establish the changes to reduce errors, measure and repeat.

The Use of Automation to Improve Medication Safety: Automated Dispensing Cabinets Sharing Experience of AUBMC

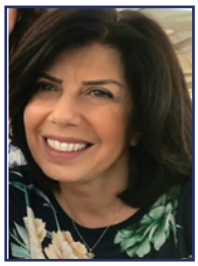
Ulfat Usta, PharmD, BCNS, BCPS

Biography: Educational Background: ESA certificate: Evidence-Based Decision Making in Healthcare Management
October 2015 – May 2016
ESA program Diplôme Inter Universitaire « Sciences Economiques
Et Sociales en Santé SESS » November 2012
Leadership Institute at ASHP November 2010
Board Certified Pharmacotherapy Specialist December 1, 2009
Board Certified Pharmacist in Nutrition Support November 2005, recertified November 2012
Masters in Clinical Pharmacy, 2004- Queen University, Belfast
Diplome de Docteur en Pharmacie, 1982 - USJ License to practice pharmacy in Lebanon, 1982
Member of the Order of Pharmacists, 1983
Professional Experience:
May 2010 - Director of Pharmacy at AUBMC
December 2005 till now - Chief Pharmacist at AUBMC - Pharmacy Supervisor at AUBMC
November 1997 to November 2005 - Assume overall responsibility of the department in the absence of the director and make sound decisions in a timely manner.
Assist the director in developing operational systems in accordance with JCI. Reaccreditation March 2014
Work with other departments and healthcare professionals to achieve professional and organizational goals.
Instruct, train, supervise and monitor the progress of employees.
Maintain a long-term and overall view of the work, translate strategies in practical goals.

Abstract: Automated dispensing cabinets (ADCs) are decentralized medication distribution systems that provide computer-controlled storage, dispensing, and tracking of medications at the point-of-care.
This technology was introduced in hospitals in the late 1980s. Although adoption started slowly, as of 2007, more than 80% of hospitals use ADCs to replace manual floor stock systems and/or medication carts that previously held a 24-hour supply of patient-specific medications.
In 2018 ADCs were implemented as part of the strategic goal of AUBMC with the objective to

- Reduce the rates of medication errors.
- Increase efficiency for pharmacy and nursing staff.
- Ensure the timeliness of distributive functions.
- Satisfied Patients and physicians with the quality and delivery of care.
- Objectives of the presentation.
- Business Case to meet the strategic goals.
- How ADCs fit in to reach the overall strategy.
- Lessons learned from the Implementation

Lebanese Accreditation. Procurement: From Selection to Storage



Mirella Aratimos, PharmD, MBA

Biography: Dr Mirella Aratimos received her Pharm D from USJ Faculty of Pharmacy since 1985, followed by a Master in Sciences at Paris VII University, and a Master in Hospital and Health Management at ESA Beirut in 2009.
After years of experience in regulatory affairs, and in hospital pharmacy, she currently holds the position of Head of Pharmaceutical Procurement at Hotel-Dieu de France, CHU.
In addition, Dr Mirella had many teaching experiences, notably in Hospital Management at St Joseph University.
Dr Mirella gave multiple lectures in Pharmaco-economics and Hospital Management, and is an active member in the Hospital setting Subcommittee at OPL.

Abstract: Our lecture will be a synthesis of meetings that will gather hospital pharmacists in 29 of September 2018 to talk about Procurement in hospitals.
we will set suggestions based on data collected from this meeting and our experience and of course to be linked to literature review concerning procurement in hospitals.
This session will not take more than 20 minutes addressed to the hospital pharmacists' population.

Lebanese Accreditation. Ordering, Dispensing and Preparation

Rabih Tamim, PharmD, DES

Biography: As a chief clinical pharmacist at Bellevue medical center during the past ten years, i was involved in the elaboration, implementation & monitoring of all policies and procedures related to JCI accreditation & planetree designation for both MMU (medication management & use), IPSG (international patient safety goals) & patient centered care standards.

During my tenure at Bellevue medical center,i have worked on many quality improvement projects of which;

1. Implementation of two HFMEA projects in the following areas:
   a. Medication process hospital wide
   b. Centralization of chemotherapy drugs IV admixture in the oncology unit by adopting computerized standardized chemotherapy protocols improving oncology patient safety through a secure prescription
2. Elaboration of many FOCCUS-PDCA related to medication management & use workflow
3. Conduct of six MMU tracers audit & report hospital wide (since 2012)
4. Compliance with JCI accreditation standards 4th ,5th and 6th editions

In addition, I am an active member in the following hospital committees:

i. Member of BMC quality council (since 2010)
ii. Member of BMC pharmacy & therapeutic committee (since 2010)
iii. Chairperson of BMC pharmacy & nursing committee (since 2014)
iv. Member of electronic medical record steering committee (since 2015)

Abstract: Learning Objectives

To understand the requirements of MMU gap analysis tracer methodology.

To find out and analyze the gaps identified in Ordering& transcribing and Preparation & dispensing procedures in order to meet the Lebanese accreditation standards.

To suggest recommendations based on the gaps identified in procedures/operations.

As the Lebanese hospitals are going through the accreditation process this workshop will help the hospital pharmacists to do conduct a self-assessment, identify and analyze the gaps related to their hospitals' processes and procedures corresponding to each standard and guiding measures.

This workshop will be conducted through a presentation of gap analysis tool evaluating their current practice by filling a self-assessment grid including the following:

Standard Description.

Measurable Elements.

Evidence.

Form /Policy /measure/ flowchart change.

The findings and recommendations will be presented and discussed in the OPL 26th annual congress in the hospital pharmacy session.

Lebanese Accreditation. Monitoring and Patient Education

Jamal Yasmine, PharmD, MBA, DBA Candidate

Biography: Beirut Arab University, Labib Medical Center
Labib Medical Center
Chief Pharmacist 2004 - Present
Internal Audit Coordinator 2017-2018
Accreditation Self-Assessment Team Leader 2017- Present
Health Awareness and Promotion Committee Chairperson 2018- Present
Clinical Preceptor at Beirut Arab University 2012- Present
Education:
Bachelor of Pharmacy at Beirut Arab University (BAU) 2001
Doctor in Pharmacy (BAU) 2010-2011
Diploma in Economic and Social Sciences in Health (Ecole Superiore des Affaires-ESA) 2012-2013
Master in Pharmaceutical Business Administration (Lebanese University) 2015-2016
Certified Accreditation Surveyor (Gates-ISQUA) 2017
Doctor in Business Administration (Beirut Arab University) 2017-2020

Abstract: Accreditation is needed for hospitals to achieve and sustain high quality care and safe practices for patient care. Medication management and safety is a primary concern in hospitals. A coordinated multidisciplinary approach is needed to improve and implement all aspects of the medication management process including selecting, procuring, storing, prescribing and ordering, transcribing, preparing and dispensing, administering, documenting and monitoring. Preventable adverse drug events account for more than 5% of unplanned hospital admissions and this can result from failure to monitor side/clinical effects of medications. Patient's engagement by proper education can decrease the rate of preventable adverse events.
The objective of this presentation is to give pharmacist the guidance on how to approach the monitoring part of medication process by stressing on the following points:
Clinical pharmacist role to intercept preventable adverse events.
Monitoring of side/clinical effects of medications.
Documentation in the medical record.
Availability and accessibility to returning previous adverse effects.
Training programs on reporting adverse effects of medication.
Role of pharmacist in patients and families' education.
Pharmacists are key leaders in the proper implementation of the medication management and safety chapter and have to be well prepared to meet the accreditation requirements and improve quality of care.

Pharmacy Informatics

Ali Taha, PharmD, BCPS

Biography: Dr. Taha earned his Bachelor of Science degree in Pharmacy in 2012, and his Doctor of Pharmacy degree in 2013 from the Lebanese American University. He completed his training as a Pharmacy Intern at different hospitals in Lebanon and in Houston Texas. Dr. Taha joined the American University of Beirut Medical Center – Pharmacy Department in 2013 as an attending clinical pharmacist covering adults, pediatrics and multiple sclerosis areas. In 2016, he was promoted to the position of senior attending clinical pharmacist. Dr. Taha is board certified pharmacotherapy specialist and has completed his EPIC health information software certification for both Pharmacy (Willow) and Oncology (Beacon) modules in Epic Headquarters in Wisconsin, U.S. Dr. Taha in his new role as health information analyst, is responsible for chemotherapy medication build and Oncology protocols build. He has been appointed as a preceptor for the informatics rotation for the PGY1 Pharmacy Residency Program. Dr. Taha has given a variety of oral presentations to nurses, pharmacists and physicians on local and national level and has publications in the field of multiple sclerosis. He is an active member in the Order of Pharmacists of Lebanon.

Abstract: Technology is developing rapidly & extending to involve several areas including health care. Pharmacy, being one of the health care areas is continuously evolving to meet these technological advancements. Pharmacy informatics plays a vital role in the era of the technological advancement. Major changes in workflows have to be implemented to meet the standards associated with the new health informatics system. Despite the major barriers that will face any change, the health information system is expected to standardize healthcare communication resulting in an increase in overall quality of care, patient safety and efficiency in care delivery. The use of Automated Dispensing Cabinets, Bedside Bar Coding, Computerized Provider Order Entry (CPOE) and Electronic Medication Administration Records (eMARs) will improve administration efficacy, reduce medication errors and decrease health care costs. Incorporating pharmacy informatics is still inconsistent in pharmacy curricula. Several organizations have outlined pharmacy informatics as a practice and provided set of guidelines to build upon. ASHP and Healthcare Information and Management Systems Society (HIMSS) are the pioneers in defining the pharmacist informatics field and incorporating the clinical aspect of pharmacy along with the technological aspect.
The purpose of this presentation is to:
Introduce pharmacy informatics within medication use process.
Discuss the barriers, benefits and challenges.
Discuss benefits and potential drawbacks of using the major pharmacy technologies that are in scope including:
Automated Dispensing Cabinets
Bedside Bar Coding
Computerized Provider Order Entry (CPOE)
Electronic Medication Administration Records (eMARs)
Others (Smart Pumps, Robotic IV Automation, E-prescribing)
Highlight the recommendations published by different organizations regarding the incorporation of pharmacy informatics within pharmacy education.

The Emerging Role of Pharmacists in Ambulatory Care Clinics: The AUBMC Multiple Sclerosis Center Experience

Maya Zeineddine, PharmD, MSCS

Biography: Dr. Zeineddine is currently the Clinical Pharmacist of the Nehme and Therese Tohme Multiple Sclerosis Center at the American University of Beirut Medical Center (AUBMC). She graduated from the School of Pharmacy at the Lebanese American University (LAU) in 2010, passed the colloquium exam and joined the Lebanese Order of Pharmacists in August 2010. Then, she was selected by LAU for the Doctor of Pharmacy program and was appointed in 2011 to do her clinical and ambulatory care rotations at Henry Ford Hospital and Karmanos Cancer Center, Detroit, Michigan. In June 2011, she completed her Doctor of Pharmacy program with distinction. Winner of the "Best Clinician" and "Positive Attitude" awards in 2011, she has completed several internships at major hospital and community pharmacies in Lebanon and the US. In August 2015, she successfully passed the Multiple Sclerosis Specialization examination and became the first Multiple Sclerosis Certified Pharmacist in Lebanon and the Middle East.
Dr. Zeineddine is involved in several clinical trials, especially in the field of multiple sclerosis. She has ongoing and completed clinical research projects on teriflunomide in pediatrics, the use of fingolimod in clinical practice, the safety of fingolimod in pregnancy, the rate of anti-JCV virus antibody seroconversion in the Middle East, and the safety and efficacy of reduced fingolimod dosage treatment. She is a member of several national and international professional organizations including the American College of Clinical Pharmacy, the National Multiple Sclerosis Society of Lebanon, the National Multiple Sclerosis Society, and the Multiple Sclerosis Association of America. In December 2015, she was appointed as Executive Secretary of the Middle East North Africa Committee for Research and Treatment in Multiple Sclerosis (MENACTRIMS).

Abstract: The increasing complexity of patients and their treatment regimens in ambulatory care settings requires access to health care professionals who can manage patients' medication therapy, identify adverse events, and manage drug-related problems. Pharmacists are trained and qualified to help fill these documented gaps in care around medication management in a wide variety of service areas including cardiology, gastroenterology, psychiatry, infectious disease, respiratory diseases, nephrology, endocrinology and neurology.
In ambulatory care clinics, physicians, physician assistants, and nursing professionals have historically been the ones to perform these tasks amidst all of their other patient-care duties. Without a medication expert, there will be increased inefficiencies, delays in treatment, decreased adherence to medications, and worse clinical outcomes for the patients. For these reasons, pharmacists are considered a necessary member of any multidisciplinary team and many hospitals mainly in the U.S, Canada and Europe are now placing pharmacists in ambulatory clinics alongside physicians and nurses to optimize patients care.
To our knowledge, adding pharmacists to outpatient clinics is not a routine practice in our Mediterranean and Lebanese hospitals. AUBMC and specifically the Multiple Sclerosis Center were the first to incorporate a clinical pharmacist into the multidisciplinary care team at an ambulatory setting. I will present our model in the MS center emphasizing on the expanding role of pharmacists in outpatient care settings

CAR T-Cell Therapy in Refractory Large B-Cell Lymphoma

Maha Wazne, BS Pharm, MS

Biography: Ms. Wazne received her Bachelor of Science degree in Pharmacy from the Lebanese American University in 2011 and then in 2017, she completed her Masters in Clinical Pharmacy from the Lebanese University. Ms. Wazne joined the American University of Beirut Medical Center in 2011 as an Attending Clinical Pharmacist – Oncology Team. In 2015, she was promoted to the position of senior attending clinical pharmacist. Ms. Wazne provides pharmacy services for the inpatient/outpatient hematology/oncology Units (Basil Cancer Center and St Jude) including rounding with the medical team, and documenting her interventions and therapeutic drug monitoring on patients. She is involved in development, revision and validation of chemotherapy order sets (solid tumors and Pediatric BMT). Ms. Wazne represents the pharmacy department on several committees including, Basil Cancer Center Collaborative Practice Team and the palliative care program. Ms. Wazne has given a variety of oral presentations to nurses, and pharmacists on local and national level. She is an active member in the Order of Pharmacists of Lebanon. Her professional interests include medication safety, and research.

Abstract: Chimeric antigen receptor (CAR) T-cell therapy marks a whole new scientific paradigm for the treatment of refractory hematological cancers. In just several decades, gene therapy has gone from being a promising concept to a practical solution to deadly and largely untreatable forms of cancer. CAR T-cell therapy have shown in different studies the potential success of adoptive cell immunotherapy brings to cancer treatment. As per ASCO 2018, CAR T-cell therapy was successful in pediatric ALL, non-Hodgkin's lymphoma DLBCL and Multiple Myeloma cases.

In October 2017, U>S food and drug Administration approved axicabtagene ciloleucal, a cell-based gene therapy, to treat adult patients with certain types of large B-cell lymphoma who have not responded to or who have relapsed after at least two other kinds of treatment. Axicabtagene ciloleucal is an autologous anti-CD19 CAR T-cell. After leukapheresis and axi-cel manufacturing, patients received fixed low-dose conditioning chemotherapy consisting of fludarabine and cyclophosphamide before the administration of a single intravenous infusion of axi-cel. Adverse events included myelosuppression, the cytokine release syndrome, and neurologic events.

Further studies are needed for possible combination therapy of CAR T-cell therapy with drugs inhibiting Tregs (regulatory T cell) and other Checkpoint blockade immunotherapies. The purpose of this presentation is to highlight on this new gene therapy, CAR T cells processing, role of preconditioning prior to CAR T-cell, dosing regimen of CAR T-cells, adverse events and possible future combinations with immunotherapies and other drugs.

Impact of Pharmacy-Conducted Medication Reconciliation on Admission: Experience in two Tertiary Care Teaching Hospitals

Lamis Karaoui, PharmD, BCPS

Biography: Dr. Lamis Karaoui is a Clinical Associate Professor of Pharmacy Practice and the Director of Experiential Education at the Lebanese American University (LAU) – School of Pharmacy (SOP). She completed her Doctor of Pharmacy degree at the Lebanese American University followed by a pharmacy practice residency at the Saint Michael's Medical Center in Newark, New Jersey, U.S.A. Dr. Karaoui is a Board Certified Pharmacotherapy Specialist. Her main interests revolve around critical care pharmacy, women's health and pharmacy education and resonate with her teaching of the pharmacotherapeutics series and advanced pharmacy practice experiences. Dr. Karaoui is the author of several publications featured in Pharmacotherapy, Annals of Pharmacotherapy and the American Journal of Health-system Pharmacists, and serves as a peer reviewer for those journals. She actively serves on the American College of Clinical Pharmacy Practice and Research Networks, the American Society of Health-system Pharmacists and the Lebanese Order of Pharmacists.)

Abstract: This pilot study aims to assess the clinical impact of pharmacy-conducted medication reconciliation performed on day 1 of hospital admission, measured by the incidence of unintended medication discrepancies identified. It also evaluates the type of discrepancies, potential adverse drug event severity, and proximal cause leading to the discrepancy.

Patients included were inpatients, > or =18 years old, admitted to the Internal Medicine floors, and had 1 or more outpatient medications. A trained student pharmacist used a patient medication reconciliation assessment form to interview the patient and collect details about their medication use. Subsequently, they checked the medication list in the patient's medical chart, and compared it to those they have already collected. The student pharmacist relayed all findings to the hospital pharmacist, who identified, analyzed, and classified discrepancies per the MATCH Toolkit into no discrepancies, intended discrepancies and unintended discrepancies. The pharmacist documented whether the intervention was accepted, rejected or pending review. The unintended discrepancies were classified by type and medication category. The pharmacist determined the proximal cause leading to the medication discrepancy. All unintended discrepancies were reviewed and each classified by severity potential.

Preliminary data showed that following the critical analysis of patient cases, 94 patients out of 204 (46.1%) included no discrepancies with a complete one-to-one match, and 7.8% included intended discrepancies explained by the patient clinical condition. A total of 195 unintended medication discrepancies was identified by the pharmacy team, with a maximum

of 7 discrepancies per patient. Most of the unintended discrepancies (67.7%) involved a prescription medication, and 32.3% involved an OTC medication.

The most common proximal cause leading to the discrepancies was the patient's forgetfulness or lack of knowledge (57.9%). 122 discrepancies out of 195 (62.6%) were judged as clinically insignificant, 35.9% as significant and only 3 (1.5%) as serious.