Proceedings:
Oman Pharmaceutical Conference 2015
28\textsuperscript{th} – 29\textsuperscript{th} October, 2015

Theme: *Emerging Role of Pharmacists in Health Care System*

Organized by:
Oman Medical College
Bowshar Campus, Muscat – Sultanate of Oman

Accredited by Oman Medical Specialty Board for 9.5 CPD points under Category 1
OMAN PHARMACEUTICAL CONFERENCE 2015
Organizing committee

Dr. Yaseen Moosa Malallah Al Lawatia
(Chairperson)

Dr. Jayasekhar P Nair
(General Convener)

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<td>Dr. Chitme Havagiray (chair)</td>
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<td>Dr. Mohammed Borghan (convener)</td>
<td>Dr. Alka Ahuja</td>
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<td>Dr. Mullaicharam</td>
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<td>Dr. Alka Ahuja</td>
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<td>Ms. Shabana Parveen (chair)</td>
<td>Dr. Majed Abukhader (convener)</td>
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<td>Ms. Buthaina (convener)</td>
<td>Ms. Abeer Mubarak Al Nofili</td>
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<td>Dr. Nasser Salem Al-Nazwani</td>
<td>Mr. Jumaa Al Mukhaini (chair)</td>
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<td>Dr. Abdul Salam (chair, expenditure)</td>
<td>Mr. Bader Darwish</td>
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<td>Mr. Mujeb Parakkal (convener)</td>
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<td>Ms. Samia Al Fanah</td>
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<td>Mr. Simon Mecherry</td>
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Message from the Chair

On behalf of the Organizing committee, I welcome all of you to the Oman Pharmaceutical Conference held from 28th to 29th October 2015 at the Oman Medical college campus in Muscat, Sultanate of Oman.

With great pleasure and sense of gratitude, I wish to present to you the scientific proceedings of Oman Pharmaceutical conference 2015. The event aims to bring different stakeholders of pharmaceutical care services. The theme of the conference “Emerging Role of Pharmacists in Health Care System” is so apt in the modern times where the pharmacists play an important role in better patient care and improved drug delivery. The conference will include plenary lectures, symposia and workshops. The speakers will highlight the importance of patient counseling, medication errors and Pharmacovigilance in health care on the first day. The second day of the conference will be more focused on current and future pharmacy practice and research. Eminent speakers from USA, France, Oman, Qatar, Saudi Arabia, India etc. will deliver lectures and conduct workshops for participants. The highlight of the conference includes workshops on training pharmacy preceptors, pediatric care practice and total parenteral nutrition. The conference proceedings are being published as a special issue of International Journal of Pharmaceutical sciences and Research (IJPSR), an Elsevier & PubMed indexed journal.

This conference will also provide a unique opportunity to exhibitors of pharmaceutical industries, companies, distributors, dealers and retailers to display their products. It will provide an opportunity for different stakeholders from the health care community including experienced pharmaceutical and medical professionals, educators, policy makers, seasoned researchers and students to interact professionally and discuss innovations in the field.

Dear delegates, I hope that the conference will consolidate and leverage the patient-centered pharmacy practice in the Middle East region; and would highlight the necessity of clinical pharmacy service in the healthcare systems. The pharmaceutical care service has to become part and parcel of healthcare system.

I would like to thank all the sponsors of the conference and all the organizing committee members for their contribution in the successful conduct of this conference. I hope this conference will prove to be an inspiring and truly transformative experience for you in your professional career.

With kindest regards

Dr. Yaseen Moosa Malallah Al Lawatia
OMAN PHARMACEUTICAL CONFERENCE - 2015  
Theme: Emerging Role of Pharmacists in Health Care System  
28th - 29th October, 2015  
Venue: Oman Medical College, Muscat  
Accredited by OMSB Under Category 1

**FIRST DAY**  
28th October 2015

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<tr>
<td>08.00-09.00 hrs.</td>
<td>Registration</td>
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<td>09.00 – 09.05 hrs.</td>
<td>Recitation of Holy Qur’an</td>
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| 09.05 – 09.10 hrs. | Welcome Speech  
Dr. Yaseen Al-Lawatia, Vice Dean, OMC and Chair of Conference Organizing Committee |
| 09.10 – 09.30 hrs. | Inaugural Address  
Ph. Nusaiba Habib Mohammed, Director General of Medical supplies, DGMS, MOH, Muscat |
| 09.30 – 10.10 hrs. | Key-Note Speech  
Topic: PharmD Education: Learning from the United States Experience  
Dr. Lucinda L. Maine, Executive Vice President & CEO, American Association of Colleges of Pharmacy, Alexandria, USA |
| 10.10 – 10.20 hrs. | Honoring the Speakers & Sponsors  
Dr. Jayasekhar P. Chair, Pharmacy program, Oman Medical College, Muscat |
| 10.20 – 10.30 hrs. | Vote of Thanks  
Dr. Yaseen Al-Lawatia, Vice Dean, OMC and Chair of Conference Organizing Committee |

**RELEASE OF PROCEEDINGS AND INAUGURATION OF EXHIBITION**

Tea Break 10.30 to 11.00 hrs.

**Session 2: Pharmacy Education [11.00 – 12.30 hrs.]**

Chairperson: Dr. Moustafa Fahmy Mohamed, Dean, Oman Assistant Pharmacy Institute, MOH, Muscat  
Co-Chairperson: Dr. Alka Ahuja, Professor of Pharmaceutics, Oman Medical College, Muscat

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| 11.00 -11.35 hrs. | The Future of Pharmacy  
Dr. Ali Alsheheri, Chairman of medication safety Program Eastern Region, King Abdulaziz Medical Hospital, Al- Ahsa, Saudi Arabia |
| 11.35-12.10 hrs. | PharmD Phenomenon, are we in the right track?  
Dr. Thamir alshammari, Dean, College of Pharmacy, University of Ha’il, Saudi Arabia |
| 12.10 – 12.20 hrs. | DISCUSSION |

**Session 3: Infertility Management [12.20 – 13.30 hrs.]**

Chairperson: Dr. Eman Al Azawi, IVF Specialist, Al Bushra Medical Specialty Complex, Muscat  
Co-Chairperson: Dr. HR Chitme, Oman Medical College, Bowshar Campus, Muscat

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| 12.20 – 12.55 hrs. | Strategy in Management of Male Infertility due to Genetic Factors  
Prof. Viville Stephen, Université de Strasbourg, Illkirch, France |
| 12.55 – 13.20 hrs. | Treatment of hormonal imbalance in male infertility  
Dr. Nasser Al Nazwani, HOD, Department of Natural Sciences, Oman Medical College |
| 13.20 – 13.30 hrs. | DISCUSSION |

**POSTER PRESENTATION SESSION I [12.30 – 16.30 hrs.]**

Convener: Mr. Pratap David, Oman Medical College, Bowshar Campus, Muscat  
Co-Convener: Ms. Buthaina Al Jamei, Oman Medical College, Bowshar Campus, Muscat  
Evaluator of Poster Presentation  
Dr. Madhu Diwakar, DGPA & DC, Ministry of Health, Oman  
Dr. Ragini Vaishnav, Oman Assistant Pharmacy Institute, Ministry of Health, Oman  
Dr. Nabila Al Lawati, DGPA & DC, Ministry of Health, Oman

International Journal of Pharmaceutical Sciences and Research (www.ijpsr.com)
### Session 4: Pharmaceutical Care [14.30 – 16.30 hrs.]

**Chairperson:** Ph. Sara Al Balushi, Directorate General of Drug Supplies, Ministry of Health, Oman  
**Co-Chairperson:** Dr. Shah Alam Khan, Oman Medical College, Bowshar Campus, Muscat

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<td>14.30 – 15.00 hrs.</td>
<td>Pharmaceutical care in Plastic and Reconstruction Surgical Department</td>
<td>Ph. Zainab Said Mohammed Al Hashmi, Acting Head of OPD Pharmacies and Sr. Specialized Pharmacist in Plastic and Reconstruction surgery ward, Khoula Hospital, Muscat</td>
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<td>15.00 – 15.30 hrs.</td>
<td>Consequences and Management of Medication Overdose in Elderly Patients</td>
<td>Ph. Hamida Al Baloshi, HOD of Pharmacy and Medical Store, Barka Wilayat, MOH, Muscat</td>
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<td>15.30 – 16.00 hrs.</td>
<td>Antimicrobial Stewardship Program in Practice</td>
<td>Ph. Abdullah Al Ajmi, Clinical Pharmacist, Department of Pharmacy and Medical Stores, Royal Hospital, Muscat</td>
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<td>16.00 – 16.30 hrs.</td>
<td>Discussion</td>
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### Workshop I: Training the Trainers [14.30 to 16.30 hrs.]

**Convener:** Dr. Majed Abukhader, Oman Medical College, Bowshar Campus, Muscat  
**Co-Convener:** Ph. Jayalakshmi Venugopal, Oman Medical College, Bowshar Campus, Muscat

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<td>14.30 – 15.30 hrs.</td>
<td>Training the Trainers/Preceptors of Pharmacy</td>
<td>Dr. Lucinda L. Maine, Executive Vice President &amp; CEO, American Association of Colleges of Pharmacy, Alexandria, USA</td>
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| 15.30 – 16.00 hrs. | Practice Session                                                      | Dr. Imran Fahmi Khudair, Human Capital Manager, Hamad Medical Corporation, Doha – State of Qatar  
Ph. Fatma Al Raisi, Oman Assistant Pharmacy Institute, Ministry of Health, Muscat |
| 16.00 – 16.30 hrs. | Group Presentation                                                    |                                                                        |

### SECOND DAY  
29th October, 2015

### Session 1: Pharmacovigilance [8.30 – 10.10 hrs.]

**Chairperson:** Dr. Shirley Varughese, Pharmacologist, DGPA & DC, Ministry of Health, Oman  
**Co-Chairperson:** Dr. Shashi Alok, Assistant Professor, Institute of Pharmacy, Bundelkhand University, Jhansi (UP), India

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<td>08.30 – 09.00 hrs.</td>
<td>Drug Induced allergic disorders</td>
<td>Dr. Vivek Lal, Associate Professor of Pharmacology, College of Medicine, King Faisal University, Al Ahsa, Saudi Arabia</td>
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<td>09.00 – 09.30 hrs.</td>
<td>Pharmacological basis of ADRs: Pivotal role of post marketing surveillance and drug safety</td>
<td>Dr. Prakash V. Diwan, Director, Lalita College of Pharmacy, Hyderabad, India</td>
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<td>09.30 – 10.00 hrs.</td>
<td>Polypill: Hypothesis, hope and hype</td>
<td>Dr. Mukesh Bhandari, Department of Medicine, Oman Medical College, Sohar Campus</td>
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<td>10.00 – 10.10 hrs.</td>
<td>Discussion</td>
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### Tea Break 10.10 to 10.30 hrs.

### Session 2: Medication Safety [10.30 – 12.45 hrs.]

**Chairperson:** Dr. Mohammed Hamdan Al-Rubaie, DG, Directorate General of Pharmaceutical Affairs & Drug Control, Ministry of Health, Oman  
**Co-Chairperson:** Dr. Jayasekhar P., Oman Medical College, Bowshar Campus, Muscat

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<td>10.30 – 11.10 hrs.</td>
<td>Strategies to Minimize Human Errors to address safer health care services</td>
<td>Dr. Imran Fahmi Khudair, Human Capital Manager, Hamad Medical Corporation, Doha – State of Qatar</td>
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<td>11.05 – 11.30 hrs.</td>
<td>Clinical Pharmacist services and its impact on medication safety</td>
<td>Ph. Wala Ahmed Ibrahim, Clinical Pharmacist Al Nahda Hospital, Muscat</td>
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<td>11.30 – 11.50 hrs.</td>
<td>Role of Pharmacist in Minimizing Medication Errors in Paediatric Care</td>
<td>Ph. Yaqoob Al Hadrami, Paediatric Unit, Nizwa Hospital, Nizwa</td>
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| 11.50 – 12.00 hrs. | DISCUSSION | 12.00 to 12.10 hrs. Tea Break  
Co-Chairperson: Dr. Mullaicharam AR, Oman Medical College, Bowshar Campus, Muscat  
12.10 – 12.30 hrs. | Effective way of Patient Counseling by Hospital Pharmacists | Ph. Sultan Juma Al Balushi, Officer in Charge, AFHS, Muscat  
12.30 – 12.55 hrs. | TDM services in Sultan Qaboos University Hospital: My Experience | Ph. Juhaina Al Maqbali, Clinical Pharmacist, Sultan Qaboos University Hospital, Muscat  
12.55 – 13.00 hrs. | DISCUSSION |
| 13.00 – 14.00 hrs. | Lunch Break | Workshop – II 14.00 – 16.00 hrs. Complications of Total Parenteral Nutrition and their management  
Convener: Dr. Abdul Salam Nazmi, Oman Medical College, Bowshar Campus, Muscat  
Co-Convener: Ms. Muna Al Dalali, Oman Medical College, Bowshar Campus, Muscat  
14.00 -14.30 hrs. | Presentation of Cases on TPN complications and management | Ph. Hussain Al Rahbi, Diwan Hospital  
Ph. Ali Al Rawhi, Head Dept. Pharmaceutical Preparations, Royal Hospital, Muscat  
Ph. Dawood Al Saalhi, Senior Pharmacist and In-Charge, Aseptic Preparation Unit, SQUH, Muscat  
14.30 – 15.00 hrs. | Practice Session |
| 15.00 – 16.00 hrs. | Group Presentation | Workshop – III 14.00 – 16.00 hrs. Challenges in Paediatric Pharmaceutical Care  
Convener: Dr. Rasha Al Sinawi, Oman Medical College, Bowshar Campus, Muscat  
Co-Convener: Dr. Nirmala Amaresh, Oman Medical College, Bowshar Campus, Muscat  
14.00 -14.30 hrs. | Presentation of Cases on Paediatric Pharmaceutical care complications and management | Dr. Prakash Mishra, Pediatric and Neonatology Specialist, Armed Force Health Services, Muscat  
Ph. Jehan Al Fannah, Clinical Pharmacy Consultant, Deputy Director of Pharmacy, Royal Hospital, Muscat  
Ms. Shafiqua Abdul Salih, Clinical facilitator, Rustaq Hospital, Rustaq  
14.30 – 15.00 hrs. | Practice Session |
| 15.00 – 16.00 hrs. | Group Presentation | 16.00 -16.30 hrs.  
Prize Distribution and Valedictory Function |
OPC-15-IS-01: PHARMD EDUCATION: LEARNING FROM THE UNITED STATES EXPERIENCE

Dr. Lucinda L. Maine

Executive Vice President and CEO American Association of Colleges of Pharmacy, USA

The Doctor of Pharmacy degree became the single entry level degree for pharmacy practice in 2004. The need for more proactive medication management was the compelling rationale for moving to a higher level of academic preparation for all graduates. A brief history of the debate that preceded the change will be provided. In addition, the American Association of Colleges of Pharmacy has provided guidance for curricular design in four progressive versions since the decision to move to the PharmD was made. The evolution of the CAPE Educational Outcomes will be described, including the version released in 2013. Key issues associated with the new educational outcomes, including interprofessional education, stronger communication skills, and other non-cognitive expectations of graduates will be discussed.
OPC-15-IS-02: THE FUTURE OF PHARMACY

Dr. Ali Alsheheri

Director Pharmaceutical Care Service
Chairman of medication safety Program Eastern Region
Co-Chair- Pharmacy Therapeutics Committee
King Abdulaziz Medical Hospital, KSA
Al- Ahsa , 31982 PO BOX 2477

The presentation Insh Allah will focus on the future of pharmacy practice and the changing role of pharmacists as a health care professionals. Attempt will be made to compare the changing role with the traditional duties of pharmacist in the past. The presentation would focus on the pharmacy education required to cater the present need by comparing the regular pharmacy program (BSc) and the new approach of Pharm D program, which would give good chance for clinical pharmacist to participate in multidisciplinary team of healthcare professionals. From the routine dispensing practice of pharmacist, the clinical pharmacist expands the responsibility in healthcare institutions to participate in medical round, select the drug product that are effective, cost beneficial and promote patient compliance, suggest alternative for non-formulary drugs, participate in writing or evaluation drug protocol /new formulary drug, and report therapeutic intervention documentation. Finally the presentation touches how physicians and other health care providers look for the new role of clinical pharmacist; how the pharmacy practitioners look for the future of the Pharmacy as a profession and main role player in pharmaceutical care.
OPC-15-IS-03: PHARMD PHENOMENON, ARE WE IN THE RIGHT TRACK?

Dr. Thamir Alshammari

Dean, College of Pharmacy, University of Ha’il, KSA

In the last decade, many countries in the region were moving forward from traditional bachelor of pharmaceutical sciences degree to the professional degree of pharmacy that is called, Doctor of Pharmacy or (PharmD). PharmD degree has started in the United States in mid of 70s and most of the American universities completely changed their programs to be PharmD in 2000. Other western countries like United Kingdom is also thinking to apply the same concept. PharmD degree is basically preparing the pharmacists to be more clinically oriented. Furthermore, PharmD holders would practice as clinician and run his/her own clinics as medical doctors. However, some scientists in the field believe that the traditional bachelor degree of pharmaceutical sciences is still needed and should be taught and never be deleted as still there is a need for it to prepare pharmacists to work also in other pharmacy specialties like research and industry. The presentation will cover the comparison between the two degrees and what is really has changed. Also, the debate between two degrees will be presented and what is the current situation in the area and worldwide. To which school is preferred to be used, American, European or traditional pharmacy degree. Also, the presentation will discuss the nature of the gulf area or Middle East and which degree fits more.
OPC-15-IS-04: STRATEGY IN MANAGEMENT OF MALE INFERTILITY DUE TO GENETIC FACTORS

Dr. Stephan Viville

Institut de Génétique et de Biologie Moléculaire et Cellulaire (IGBMC), Institut National de Santé et de Recherche Médicale (INSERM) U964/Centre National de Recherche Scientifique(CNRS) UMR 1704 /Université de Strasbourg, 67404 Illkirch, France
Email: viville@igbmc.fr

As attested by a recent World Health Organization (WHO) report, infertility is a global healthcare problem. Indeed, about 48.5 million couples suffer from infertility worldwide. The cause of infertility can be of female, male or mixed origin, each cause accounting for about one third of all cases. The definition of a male factor is generally based on abnormal semen parameters; semen quality is usually assessed by sperm count in the ejaculate, percentage of motile sperm and normal morphology. Male infertility can then be defined as the absence of sperm in ejaculate (azoospermia), inability to produce spermatozoa in sufficient numbers (oligozoosperma, with diverse severity), inadequate motility (asthenozoospermia), abnormal morphology (teratozoospermia) or a combination of these defects. Non-obstructive azoospermia (NOA) and severe oligozoospermia (SO) are the most frequent causes of male infertility in man. Unfortunately, a significant number of cases remain idiopathic. The current estimate is that about 30 % of men seeking help at an infertility clinic are found to have oligozoosperma or azoosperma of unknown aetiology. So far, the only available treatment is in vitro fertilization with an intra-cytoplasmic sperm injection (ICSI), which represents an empirical approach generally offered as a standard treatment option. Spermatogenesis is an extremely complex process that involves highly specialized mechanisms. Considering the concerted action of more than 2000 genes in spermatogenesis, a mutation in any of these genes may be responsible for a spermatic defect and therefore, it is likely that most ‘idiopathic’ forms may have a genetic origin.

My talk will be dedicated on a description of the different genetic default that can be responsible for a male genetic infertility. In addition, I will give the strategies to take care of these patients and how we can improve our knowledge in the field of male genetic infertility.
OPC-15-IS-05: HORMONAL IMBALANCE TREATMENT MEDICINES IN MALE INFERTILITY

Dr. Nasser Al Nazwani,
HOD, Department of Natural Sciences, Oman Medical College, Sohar Campus, Sultanate of Oman

It has long been perceived that infertility is a woman problem and therefore seldom connected to a male factor. Recently, numerous volumes of infertility prevalence studies in different populations have revealed that infertility problems in males contribute to 40 to 50% of all infertility cases effecting overall 7% of all male population. In order to resolve this problem it is important to understand the causing factors and also equally important to categorize the type of the defect. More than 90% of male infertility is due to low sperm count or poor sperm quality. Other causes might include hormonal imbalance, anatomical problem and genetic defects. Sperm abnormalities can be caused by different factors including congenital birth defects, inflammatory diseases, life style, obesity and exposure to chemicals.

It is imperative to identify the underlying causes contributing to infertility before attempting to treat the problem. Drugs therapy is used to treat hormonal imbalance and hypogonadism. Surgery is used to repair varicoceles and to correct obstructions in the reproductive tract. If infertility remains unresolved then assisted reproduction techniques may be considered. The most effective hormonal medicines prescribed to correct hormonal imbalance in male infertility include anti-estrogen drugs such as clomiphene citrate. This is a selective estrogen receptor modulator that helps to stimulate luteinizing hormone and follicle-stimulating hormone production therefore, promoting testosterone secretion. Human gonadotropin is used to stimulate testosterone production. Testosterone is also used as injection or gel stimulating spermatogenesis and semen synthesis. Excessive level of prolactin in males is corrected by bromocriptine. Antioxidant preparations like vitamin C and E are frequently used to curb free radical production.
OPC-15-IS-06: PHARMACEUTICAL CARE IN PLASTIC AND RECONSTRUCTION SURGICAL DEPARTMENT

Ph. Zainab Said Mohammed Al Hashmi

Acting Head of OPD Pharmacies, Sr. Specialized Pharmacist in Plastic and Reconstruction surgery ward, Khoula Hospital, Muscat

Plastic and reconstruction surgical is a department which involved in reconstructing any defect which occur either congenital or traumatic that include the RTA, occupational injuries and burns injuries. The pharmacist’s role on patient's health care team is highly needed. Major done by pharmacy department is clinical pharmacist. This speciality provides active members who are responsible for overseeing the optimal, safe and cost effective medication therapy management through evidenced-based medicine. The lecture will focus on various pharmaceutical approaches applied in surgical departments. Antibiotics and pain management are the major topics that will be covered hence, their vast therapeutic role in any surgical department. Antibiotics are used as prophylaxis prior surgeries or as treatment according to diagnosis. The other part is to manage the pain pre or post surgeries and after traumatic injuries cases which lead to give more care and reduce the pain in different type of injuries. Moreover, wound is a massive matter in the plastic surgical department. It is of equal important to manage the wound, aligning which type of dressing used and advice therapy in consideration of wound status in different case. Additionally/Furthermore, the lecture will highlight the practical aspects of steroids, anticoagulants therapy and Botox used in plastic surgical department.
OPC-15-IS-07: CONSEQUENCES AND MANAGEMENT OF MEDICATION OVERDOSE IN ELDERLY PATIENTS

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The elderly represent one of the fastest growing groups of the population and their use of medication is increasing significantly with polypharmacy. Inappropriate medication use can lead to drug-related problems include drug ineffectiveness, adverse drug effects, over dosage, under dosage, and drug interactions. Many medication need to be used with special caution because of age related change in pharmacokinetic and pharmacodynamics. The presentation is addresses that issues in geriatric pharmacotherapy, the effect age on pharmacokinetics and pharmacodynamics and pharmaceutical care in elderly. In addition it include the role of pharmacists are even more well placed to actively participate in optimizing therapy in the elderly and Pharmacists must share responsibility with prescribers and patients to ensure that potentially inappropriate medications are minimized.
OPC-15-IS-08: ANTIMICROBIAL STEWARDSHIP PROGRAM IN PRACTICE

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Antimicrobial resistance is an emerging threat to the whole world and the number of new antibiotics that are being introduced to the market is very small. The antimicrobial stewardships program aim to optimise the use of antibiotics by applying specific interventions. For example, those interventions include changing from parenteral to oral dosage forms, choosing the right antibiotic based on culture tests, restricting the use of antibiotics, etc. In practice, implementing a stewardship program mainly depends on the local circumstances of the hospital or even the country since it is also affected by the availability of antibiotics and local resistance data. In addition, it is a multidisciplinary approach to optimise the use of antibiotics. This presentation will focus on the steps taken to establish the stewardship program in the Royal Hospital and roles of different medical specialities in the success of the program. In the Royal Hospital, the stewardship program was initiated by assembling a committed team of ID doctors, pharmacists, IT technicians and nurses. Each team member had a role to contribute to the program. Microbiologists were responsible for developing an antibiogram which illustrated the resistance and sensitivity patterns of different antibiotics against different types of bacteria. Pharmacists were responsible for providing a retrospective analysis on the prescribing pattern for certain antibiotics that included meropenem, moxifloxacin and clindamycin. This data allowed the team to focus on areas of higher consumption for auditing and ensuring the rational use of antibiotics. Other work involved the infection control department that was responsible for surveying the resistance patterns and providing guidance in prevention. The team is currently working on achieving other objectives of the antimicrobial stewardship program using further interventions that were established. The presentation will cover these points in detail.
OPC-15-IS-09: DRUG-INDUCED ALLERGIC DISORDERS

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Even though the exact incidence of drug induced allergic disorders is not known, they constitute a significant percentage of the adverse drug reactions encountered in clinical practice. Drug allergy, or drug hypersensitivity, is defined as an immunologically mediated reaction producing stereotyped symptoms which are not related to the pharmacodynamic profile of the drug, or its dose. These reactions occur only in a small percentage of people taking the drug and are not a universal phenomenon. Drug allergies are broadly classified as Humoral or Cell-mediated (Delayed) hypersensitivity reactions. Humoral drug hypersensitivity is sub-classified into Type I (Anaphylactic), Type-2 (Cytolytic) and Type-III (Retarded, Arthus) reactions. One of the commonest clinical problem encountered by physicians and clinical pharmacists is a lack of ready information on various drugs which can cause hypersensitivity reactions, and how these can be tackled effectively. Management of drug allergies ranges from emergency management of anaphylaxis to a more sustained treatment, depending on the type and severity of the reaction. This talk is intended to highlight the mechanism, pathogenesis and management of important drug induced allergic disorders in a lucid fashion, with special emphasis on commonly used medicines which are of particular relevance to the clinical pharmacist and his patients.
“There was no safe drug and there will not be any safe drug in the coming future” Paracelsus. Does this statement warrant safety during the drug development and after commercialization? The answer is definitely “YES”. The major goal of medicine is to treat and prevent diseases with fewer side effects. Medicines are highly regulated products and contribute enormous benefits and save millions of life from deadly diseases. The Adverse Drug Reaction (ADR) is defined as “an appreciably harmful or unpleasant reaction, resulting from an intervention related to the use of a medicinal product, which predicts hazard from future administration, warrants prevention, specific treatment, alteration of the dosage regimen, or withdrawal of the product.” Why we need the ADR monitoring is a frequently asked question. As drugs cause ADR and create major problems for therapy. The ADR is very difficult to detect as they copy other diseases and represent few specific features. Fortunately, ADR are recognized with the present knowledge of Pharmacology and judicious criteria of doses. The ADR treatment is very expensive and needs to be regulated to safeguard the patients. Drug approval has inherent limitations due to restrictive populations studied under pre-approval trials. Unfortunately, some medical software packages have the capacity to record ADRs as an allergy. The Pharmacogenomics is the most recent science which emphasizes the genetic predisposition of ADRs. This innovative science provides a new perspective in dealing with the decision making process of drug selection. This has efficient mechanisms to understand, how to tackle both expected and unexpected ADRs. Health impact on immune-mediated drug hypersensitivity reactions. It has shown that predisposition to hypersensitivity reactions caused by abacavir, nevirapine, carbamazepine and flucloxacillin is due to specific HLA genes on chromosome 6. It is true that “Dying from disease is some time unavoidable but dying from medicine is not acceptable. When a drug goes to market, we know everything about its safety” -- WRONG statement.
OPC-15-IS-11: POLYPILL: HYPOTHESIS, HOPE AND HYPE

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A polypill is a drug product in a pill form (i.e., tablet or capsule) that combines multiple active pharmaceutical ingredients. The prefix "poly" (multiple) refers to the multiple individual drugs in a given "pill." It is a fixed-dose combination (FDC) drug product targeting primary or secondary prevention of certain chronic diseases. Polypill is a useful therapeutic tool for those afflicted with multiple diseases/conditions, by consolidating multiple medications into a single product and thereby simplifying medication administration for healthcare personnel as well as alleviating pill-burden for patients and thereby improving compliance. One of the first recommended roles of a polypill was as a means of providing recommended medications to people with heart disease, stroke and other forms of cardiovascular disease. Polypills have also now been proposed for managing diabetes (and potentially for pre-diabetes). Other potential areas for using polypill as a therapeutic strategy could be HIV, mental-health, transplant, and certain other patient groups in whom the pill-burdens (whether temporary or indefinite) are high. Polypill may also be useful for elderly patients who require several medications on a daily basis for multiple ailments, but have poor compliance because of difficulties in remembering or keeping track of their drug regimen. In addition to the fixed-dose types, polypill can also be custom-made for specific patients through a process called pharmacy compounding as most physicians have wide discretion to prescribe customized drug products containing unique drug-dosage combinations (and/or formulations thereof) specifically for individual patients, which certain pharmacies can then sometimes produce for such patients. There was tremendous media hype when the polypill concept was first introduced and fanciful names like ‘Super pill’, ‘Miracle pill’, ‘Fix-all pill’, and ‘Magic bullet’ etc were coined to describe the polypill. However, the debate over the pros and cons of polypill as a therapeutic tool is still going on. There are still many challenges like physician and patient acceptability, pharmaceutical/formulation issues, cost and approval by regulatory authorities etc. which need to be fully addressed.
OPC-15-IS-12: THE ROLE OF CLINICAL PHARMACIST IN MINIMIZING MEDICATION ERRORS IN PAEDIATRIC CARE

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A lot of evidence supports the role of clinical pharmacists in preventing medication errors, including a clinical pharmacist in wards to work collaboratively with other health care teams to improve quality of care delivered to patients. Since clinical pharmacists possess the knowledge of therapeutics, they can play an important role in rationalising the use of medications. Paediatric patients are prone to experience adverse events three times more than adult patients. Errors can happen along all phases of medication use process: prescribing, dispensing, and administering medications. Therefore, introducing clinical pharmacy services in paediatric wards reduces these events to promote a safer care. This talk highlights the importance of including a clinical pharmacist in paediatric wards. Clinical pharmacists can provide recommendations to prescribers regarding the proper evidence-based therapeutic options during consultant ward rounds. Many prescribing errors can be prevented including: wrong, patient, wrong drug, dose, frequency, wrong weight, medicine duplication, and unclear orders. Moreover, interaction with patients/family members builds trust and reveals some medication discrepancies. Other clinical services include: assessment of current medication management, therapeutic drug monitoring, provision of medication information and adverse drug management. Some strategies can be implemented in paediatric wards to prevent medication errors. This includes computerised physician prescribing system, pre-printed prescription forms, and medication administration systems. The work with paediatrics is challenging mandating clinical pharmacists to use their clinical judgement to prevent medication errors. Hopefully, this presentation delivers a brief message of different roles of clinical pharmacists in preventing medication errors in paediatric patients.
OPC-15-IS-13: SAMPLING TIME AND INDICATIONS APPROPRIATENESS FOR THERAPEUTICALLY MONITORED DRUGS AT A TEACHING UNIVERSITY HOSPITAL IN OMAN

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To evaluate prospectively the appropriateness of indications, sampling time and outcome of TDM requests at a teaching university hospital in Oman. Methods: A prospective cross-sectional study was conducted over a four months period; October 2013–January 2014 at the Sultan Qaboos University Hospital (SQUH), a 855 bed university teaching hospital. Appropriateness criteria for indications and sampling time were defined a priori. The evaluated drug’s requests were for carbamazepine, phenytoin, phenobarbital, valproic acid, digoxin, gentamicin, amikacin, vancomycin, tobramycin, theophylline, lithium, and cyclosporine. Results: Of 733 evaluated TDM requisitions, the majority were for antibiotics (75.0%) followed by antiepileptics (10.5%) and cyclosporine (8.9%). Most of the requests had appropriate indication (78.2%), however, only 28.5% had appropriate sampling time. Results were applied by dosage adjustments in 65.8% of requests and some of the inappropriately sampled requests (15.3%) were used as a basis for modifying the dosage regimen. Of all the reported plasma concentrations 42.3%, 41.2%, and 16.5% were within, below and above the reference range, respectively.

Conclusion: TDM service is much less than optimal in SQUH. A lot of effort needs to be carried out to improve TDM use in the developing countries as adjusting the doses on results that are based on wrong sampling time might expose patients to toxicity or therapeutic failure.
OPC-15-IS-14: TRAINING THE TRAINERS/PRECEPTORS OF PHARMACY: WORKSHOP

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Transforming student pharmacist into a practicing pharmacist is a concern for the profession and it is important to maintain the standards needed in of patient care. The training or internship of a pharmacy graduate is a phase of transition from being a learner to a practitioner. During this period the interns are expected to apply their knowledge gained during their studies to practical application in the field. The supervision by a practitioner during the training period is one of the most important issues to ensure that the intern pharmacist has acquired a mature and responsible attitude towards the practice of pharmacy in relation to professional colleagues and the general public. Preceptors are a vital link in the transition as they provide individualized attention, opportunities to apply knowledge obtained in classrooms in both community and clinical settings. Most preceptors are trained practitioners and are required to teach in an uncontrolled and complex environment which makes the process of training the intern pharmacists as challenging. He/she brings his/her own attributes, motivation, knowledge, skill, attitudes, communication skills and experience. It may not be matching to train the pharmacy graduates. It could be due to the fact that training takes place in an unpredictable, dynamic, non-routine and ideal situations involving necessary ability to have problem solving and decision making skills among the intern pharmacists. Therefore, orientation and training of preceptors to be a better teaching practitioner is required at this juncture. The main objective of the workshop is to train the preceptors participating in the workshop and involved in training the pharmacy graduates of Oman Medical College. The techniques learned would connect them to teaching and research resources available at OMC and would enhance the precepting offered to the community and clinical pharmacists. Following are the detailed objectives of the workshop:

1. To provide a platform to discuss the materials and tools to meet preceptors requirements.
2. Improve awareness on assignments, projects, evaluation tools, orientation checklists.
3. To motivate to meet and interact with other preceptors regarding successful precepting and challenges faced during precepting.
4. To develop skills in managing time so that they will spend less time in teaching without affecting routine pharmacy practice to become a great preceptor.
5. To improve professional values, attitudes and approach towards an intern pharmacist.
6. To develop training plan and schedule with intern pharmacist.
7. To arrange meetings on a regular basis to discuss weakness and strength of intern pharmacists and discuss issues, review progress and learning outcomes during training.
8. To motivate the intern pharmacists for a full range of professional services and provide positive, developmental feedback during training.
OPC-15-IS-15: CHALLENGES IN PEDIATRIC PHARMACEUTICAL CARE: WORKSHOP

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It is well known that an age of a patient plays an important role in pharmacokinetics and pharmacodynamics of drugs. Although clinical trials are multicentric but that involves a small number of the population. Therefore, experience based approach in handling paediatric issues takes central stage in paediatric pharmaceutical care. Children are considered to be a vulnerable group and have difficulty in tolerating simple and common excipients such as benzyl alcohol and propylene glycol which cause gasping syndrome and circulatory collapse respectively. Oral bioavailability of penicillin G is increased in neonates whereas it is decreased with phenobarbital. Reduced concentration of corticosteroids is needed as the permeability of stratum corneum is reduced in young children. Intramuscular route of administration is not recommended due to variation in absorption of medications in children due to low muscle mass, reduced muscular blood flow and insufficient muscular concentration. It is also important to note that the absorption of drugs through lungs and rectum is also low which necessitates the adjustment of many medications. Preventable medication errors are three times more common in children than in adults. Errors have been reported due to inadequate information on doses, incorrect use of formulae to calculate doses, non availability of suitable dosage forms or concentrations and need for complex calculations and dilutions. However, there are number of methods available to reduce the errors and risk of medication errors in children. These methods involve continuous practice in paediatric ward of hospitals. Objectives of the workshop are to bring awareness and train the participants in handling paediatric and neonatal complications in pharmaceutical care. Following are the detailed objectives of the workshop

1. To understand how to adjust drug dose and use of dosage forms according to pharmacokinetic profile of medications and disease conditions in pediatrics.
2. To learn special pediatric preparations and formulations
3. To monitor prescriptions and medication errors and to learn how to address the issue
4. To integral approach of health care team in managing acute and chronic complications in pediatrics population
5. To update knowledge on use of technologies in minimizing paediatric complications.
6. To bring awareness on evidence based best pharmacy practices in dealing with the most common paediatric clinical problems with more specialized care.
OPC-15-IS-16: COMPLICATIONS OF TOTAL PARENTERAL NUTRITION AND ITS MANAGEMENT: WORKSHOP

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Total Parenteral Nutrition (TPN) is generally recommended when a patient is not able to take required nutrients by mouth or gut, are unable to absorb nutrients are suffering from malnutrition and also to improve clinical outcomes. The nutrient solution consists of water, macronutrients and micronutrients delivered through medical infusion pumps, sterile bags and catheters. Sometimes drugs are added to the nutrient constituents and infused separately in parallel to nutrients. Patients maintained both short term and long term TPN have risk of developing many complications. These complications are related to catheter insertion, mechanical, infections and metabolic. Catheter complications include pneumothorax, accidental arterial puncture, and catheter-related sepsis. Metabolic complications include the Refeeding Syndrome, hyperglycemia, hypoglycemia, liver dysfunction, cholestatic jaundice, and fatty infiltration. As a measure of reducing TPN complications a strict infection control protocol is recommended regardless of the type of catheter placed and includes the following: hand washing, aseptic site and hub care, port sterilization before access, close monitoring of catheter site appearance for redness or inflammation. Catheter occlusion or inability to infuse a solution and/or aspirate a blood sample, cracked or broken or leaking catheter and thrombosis of blood vessels around an intravenous catheter is another potential complication with intravenous therapy as well as intravenous nutrition. Many factors play a part in the clotting of a vessel and different institutions may have special protocols for both prevention and treatment. This emphasizes the fact that provision of nutrition within the hospital and later in the home can be a challenging area of care delivery for our patients. It is imperative that this care be carefully considered and that adequate resources be available. Most importantly, the coordination of care from multiple caregivers such as physicians, nurses, dietitians and pharmacists is vital to the success of this venture. Objectives of the workshop are to bring awareness and train the participants in handling TPN complications in pharmaceutical care. Following are the detailed objectives of the workshop

1. To identify technical problems with line insertion and how to address.
2. To recognize post-insertion catheter problems and addressing the same.
3. To diagnose the metabolic complications and developing the strategies to correct them
4. To calculate the required amount of macronutrients and nutrients as an individual therapy of the age and medical status of the patient.
5. To practice how to calculate the required volume of TPN and its rate of infusion based on age, body surface area and medical status of the patient.
6. To understand the ideal set-up for TPN room, working condition, maintenance and aseptic condition required for sterile TPN preparation.

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Introduction: Healing with medicinal plants is as old as mankind itself. Variety of plants around the world were found to have great medicinal benefits like antibacterial, antifungal, antimicrobial, antioxidant activities, etc. Limes are small citrus fruits, Citrus aurantifolia, which have so many medicinal uses such as weight loss, skin care, relief from constipation and treatment of scurvy, etc. The general purpose of this project was to evaluate the phenolic content and anti-oxidant potential of Citrus aurantifolium leaves grown in Oman.

Objectives: Our objectives were to (1) prepare the lime extract by hot extraction method, (2) perform the chemical test to check for the presence of phenols in the lime leaves, (3) determine total phenolic content by Folin-Ciocalteu method, and (4) determine antioxidant activity by suitable in-vitro assay method.

Methods: Various methodologies were tried to investigate the presence of antioxidant activity in lime leaves. Two samples of lime extracts, one from Nizwa and the other one from Nakhal, were used to proceed with our experiments. Screening of Phytochemical DPPH, thiobarbituric acid and H₂O₂, estimation of total flavonoid content and determination of phenolic content were the approaches used to answer our project’s objectives.

Results: Our results showed that lime leaves contained flavonoid and phenolic contents, which indicates the presence of antioxidant activity.

Conclusion: Therefore, the antioxidant activity in lime leaves makes it worthwhile to be used in medicinal preparations.

Key words: Phenolic, flavonoid, antioxidant
OPC-15-EP-02: TYPE AND SEVERITY OF ADVERSE DRUG REACTIONS REPORTED IN OMAN

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Introduction: Pharmacist as a healthcare professional has an important role to play in promoting safe use of medicines. Submission of Adverse Drug Reaction form by general public, patient and health care professionals enables the monitoring authorities to ensure the safety, effectiveness and quality of medicines. Retrospective analysis of these reported data is one of the major ways to monitor the safety of therapeutic goods globally. Studies based on these principles contribute to a better understanding of their possible adverse effects when they are used outside the controlled conditions of clinical trials. In this era of fast track new drug discovery and development and their introduction for clinical use it is expected to have increased frequencies and incidence of adverse drug reactions. However, In Oman, introduction of new medications into the health care system is very restricted and there are many strict regulations to import them.

Objectives: The study going to be presented in the conference was carried out with an objective to analyze the prevalence of adverse drug reactions reported in 2010 according to age, gender, type and severity.

Methods: This study was carried out retrospectively for a period of one year by visiting the Directorate General of Rational Use of Medicines and Ministry of Health database at Muscat. The excel sheet of the ADR’s was obtained and analyzed.

Results & Discussion: Results of our study shows that majority of ADR’s were reported by pharmacists mainly from Muscat region and from Sultan Qaboos University Hospital. The common drug category that caused ADRs was antibacterials, major organs affected by ADRs was skin, GIT, Neurological and others.

Conclusion: Therefore, it is recommended for all the pharmacists to play an important role in improving medication safety by reporting adverse drug reactions promptly irrespective of whether they are common, rare, minor, moderate, severe or life threatening. This will improve the patient care, patient safety, compliance and financial burden on patients and community in general.

Key words: Adverse Drug Reaction; Pharmacovigilance: Oman; Pharmacist
OPC-15-EP-03: RETROSPECTIVE STUDY ON DRUG THERAPY PROBLEMS AND INTERVENTIONS BY PHARMACIST AT SELECTED HOSPITALS IN MUSCAT

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Introduction: Prescription of medicines is a fundamental component of the health care of people and optimization of prescribing for patients has become an important issue especially in chronic diseases and degenerative conditions. It is important to identify factors that increase the risk of medication errors and to consider how the risks can be reduced. Objectives: Based on non-availability of information on drug therapy problems in Oman it is hypothesized that there could be drug therapy problems that the clinical pharmacists working in the hospitals are playing an important role in reducing them with proper documentation. Therefore, a study was carried out to determine the number and types of drug therapy problems identified and intervened. Attempts were made by the pharmacists to resolve at two hospitals located in Muscat. Methods: Present study was a retrospective analysis of 200 intervened prescriptions of discharged patients in year 2009 to 2012. Pharmacist’s intervention and comments written on the prescriptions were used to revise each error and classify it into categories such as drug, dose, dosage form, frequency, duration, drug-drug interactions and contraindications. Results & Discussion: Results of present study indicated that 57.7% of prescriptions were of the patients from 13-60 years of age. The average number of medications prescribed were four and frequency of drug therapy problem was 1:3. In total 796 medications were prescribed out of which 226 medication errors were identified. Highest number of problems (33.33%) were accounted for frequency of drug administration. Whereas, 25.7% and 24% were associated with selection of drugs and dose respectively. 6.75% of problems were associated with duration of drug therapies. 69.1% drug therapy problems were associated with hyperlipidemia and 30.9% with other conditions. The most common errors were improper dosage (60.9%), wrong medication (19.3%) and wrong route of administration (12.9%). 29.6% of total problems were noticed with use of antibiotics, second highest 17.6% was with the use of NSAIDs. Conclusion: It is very important to note that the interventions by the pharmacists while discharging the patients were accepted by the prescribers. Therefore, the role of clinical pharmacists in every hospital is crucial to control the drug therapy problems and associated consequences. Health care system in Oman is patient centred and to meet new and emerging challenges the clinical pharmacists needs to play an important role in identifying and resolving these issues through cooperation, medication profile review, patient counseling and recommendations to prescribers.

Key words: Pharmacist intervention; Medication error; Prescription error; Drug therapy problem; Oman

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Introduction: Medication and medical errors can happen in any stage of the care process from diagnosis to the drug administration. Understanding where and when errors can most likely occur is generally felt to be the first step in trying to prevent these errors. Objective: The main objective of this study was to evaluate the omissions medication errors in inscription of in-patient prescriptions retrospectively in three different hospitals. Methods: The study was carried out from January 2010 to August 2010 by collecting 50 prescriptions from each Qurayyit health centre, Sumail hospital and Armed Forces Health Services. These prescriptions were randomly collected therefore it included acute, chronic conditions in adults, pediatric and geriatric patients. Detailed data was collected with respect to trade and generic name, indications, inscription and omissions. Data was analyzed for errors omissions including product name, dose, dosage form, regimen, direction for use, quantity and duration of treatment. Evaluation of errors included analysis of data for duplication, contraindication and minor, moderate, major drug-drug interactions. Data collected from the inscriptions was checked by using BNF, ONF, and www.drugs.com. Results and Discussion: Results of the study indicated that omission of medication information was noted in 20% dosage forms, in 22.6% and drug regimen in 20%, direction and route of administration in 66%, duration of use in 28.7%, quantity in 21.3% and prescribers signature in 14% of prescriptions. Duplication of medication were noted in 3.3% of prescriptions. Analysis of data have shown that there were 8 types of major, 152 moderate and 35 types of minor drug-drug interactions which were identified in selected prescriptions. Conclusion: The number and types of errors found in this study raises the concern on safety and standards of pharmaceutical care provided at respective hospitals and health care centres. These concerns must be taken into consideration by all health care professionals in order to minimize/prevent these errors and improve patient care, medication safety and success in implementation and also adherence to standard pharmaceutical care practice.

Key words: Prescription error; Medication error; In-Patient; Error of omission; Oman
OPC-15-EP-06: IN VITRO ANTIBACTERIAL FERULATES FROM JATROPHA DHOFARICA

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Introduction: In last few decades there has been emergence and spread of resistant strains to the presently used anti-infectious drugs. Furthermore, there has been great decline in discovery of new drugs after the golden era in antibiotics discovery. Therefore, there is an urgent need to search for new and more potent antimicrobial drugs from natural sources or as synthetic ones. Objective: To isolate and characterize antimicrobial compounds from J. dhofarica. Methods: Hexane, dichloromethane, and methanol crude extracts were obtained from stem bark of J. dhofarica by maceration. Dichloromethane extract was found most active in In vitro antimicrobial assay against strains of Escherichia coli, Haemophilus influenza, and Staphylococcus aureus in disc diffusion method. It was thus, subjected to chromatographic analysis to isolate the active metabolites. Structures of isolated compounds were elucidated by spectroscopic methods. Results: Three compounds including ferulic acid and Tetratriacontyl ferulate were isolated from dichloromethane extract. Ferulic acid showed high antibacterial activity against S. aureus and E. coli with IZ 13.5 and 9 mm, respectively. Its activity against S. aureus was higher than amoxicillin. Tetratriacontyl ferulate showed only moderate activity against strains of gram positive and gram negative bacteria (IZ = 6–9 mm). Conclusion: The present observations might justify the local use of this plant species as anti-infective agent. It also evoke establishment of a new endeavor to standardize the use of this plant in herbal remedies as well as development of the ferulates as new antimicrobial agents.

Key words: Antibacterial, Jatropha dhofarica, ferulic acid.
OPC-15-EP-08: PURIFICATION OF ANTHOCYANIN FROM DAUCUS CAROTA (BLACK CARROT) JUICE USING A NON-IONIC HYDROPHOBIC CROSS LINKED POLYMER BASED RESIN

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Introduction: Anthocyanin is a flavonoid based colouring agent which has been attributed to having a number of anti-oxidant and radical quenching properties. Objectives: Owing to its potential use in the food and nutraceutical industry, a method was sought to be developed which could quickly purify the anthocyanin present in black carrot. Methods: The use of Indion PA 800, a non-ionic, hydrophobic, styrene divinylbenzene copolymer based resin, in bringing about the purification of the anthocyanin from the juice was investigated. Results and Conclusion: It was found that upon concentrating the juice by 40% under vacuum and subjecting it to chromatographic purification using the Indion PA 800 resin, purities from EV 4 to EV 100 was achievable in the final purified product.

Keywords: Chromatography, Anthocyanin, purification & Daucus carota

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Introduction: A large number of college students experience symptoms of depression due to stressors like; homesickness, challenge of establishing a new social network, academic difficulties and/or adjustment to higher academic expectations, financial problems & uncertainty about the future. Objectives: A survey was carried out to determine the prevalence of depression among college students in Muscat. The study also focused on to find the differences as gender, academic year and stressor responsible for it. The management of these cases of depression was also studied. Methods: A survey was conducted by distributing a structured Patient Health Questionnaire (PHQ) to at least 300 students in 3 different colleges in using randomized sampling. The data was collected only after their informed consent with strict confidentiality. The data was then statistically analyzed using SPSS 18 programme. Result and discussion: The study indicated that the prevalence of depression was widely present among different colleges as it was clearly evident from the number shown It shows that out of 300 students 147 (49%) were found suffering from some degree of depression. The number of females students with depression (70%) was very high than the male students (30%). The distribution of depression among different academic years of 1st, 2st, 3rd and 4th was 45 (31%), 67 (46%), 23 (15%) & 12 (8%) respectively. This indicated that the prevalence of depression is the highest among second year students. The detailed results will be discussed in the presentation. Conclusion: In conclusion from this study it was found that depressive symptoms are widely prevalent among college students in Muscat. Females are more susceptible to depression than males probably due to hormonal factor.

Key words: Depression, Students, Prevalence

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Introduction: Anemia is one of the most prevalent public health problems in most of the developing countries and has serious consequences on national development. Anemia has serious negative consequences including increased mortality in women and children, reduced capacity to learn decreased productivity in all individuals. Objectives: The study was conducted to determine the incidences and management of anemia in pediatric age group at Suwaiq Extended Health center. Our objectives were to determine the types, grades, common signs and symptoms and management protocols of anemia in pediatric patients. Methods: The study was carried out at Suwaiq Extended Health Center by using standard questionnaire to collect the data retrospectively from the medical record of pediatric patient from 01/01/2009 to 30/12/2013 duration. The data was then analyzed using Excel program. Result and discussion: It was observed that pediatric males have higher incidence of anemia than pediatric females. Children from age group of 6 months to 2 years were found to be most susceptible to have anemia. The most common type of anemia reported was due to blood loss. The complete results will be discussed in the presentation. Conclusion: There is need to educate the general public specially mothers about anemia incidences and sign and symptoms in children so that there is less chances of anemia and to give better management.

Key words: Anaemia, Pediatrics, Blood loss
OPC-15-PP-02: COMPARE THE PROPERTIES OF GRANULES OF AMOXICILLIN PREPARED USING DIFFERENT BINDERS, GLIDANTS AND DISINTEGRANTS


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Introduction: Most dosage forms contain both active ingredients and excipients. Active ingredient produces pharmacological action in the body and excipients help medication to release more easily in a more effective manner. The choice of excipients is critical to the formulation of dosage forms. Objectives: With this in our mind, an attempt was made to select the excipients for preparation of amoxicillin granules. The main objective of our study was to prepare the granules of Amoxicillin using different fillers, binders, disintegrants and glidants and to evaluate them for their flow properties, Bulk and tapped densities, angle of repose and disintegration. Methods: Fifteen different sets of granules using various glidants, binders and disintegrants were prepared and tested for Bulk and tapped densities, angle of repose and disintegration. The excipients chosen included fillers like lactose, binders like Ethylcellulose,sucrose and gelatine, disintegrants like Starch, soluble starch, surfactants like sodium lauryl sulphate, glidants, lubricants and antiadherants like talc, silica gel and waxes. Results: The results were compared and best three formulae were selected to study the release of drug from the granules. The formula containing the drug Amoxicillin, Lactose, Starch, Soluble starch and Talc was best in terms of physical properties.

Key words: Granules, excipients , flow properties
OPC-15-PP-03: PREPARATION AND EVALUATION OF SOLID DISPERSIONS OF POORLY SOLUBLE DRUGS


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Introduction: Poorly water soluble compounds have both solubility and dissolution related problems which can dramatically affect their bioavailability resulting in reduction of their therapeutic efficacy. One of the methods used to overcome such problem is by preparing solid dispersions of those poorly soluble drugs. This technology depends on producing a complex using at least two parts generally a hydrophilic matrix and the hydrophobic drug intended to be formulated. Objectives: The aim of the study was to prepare solid dispersions of poorly soluble drugs and evaluate them. Cefixime, Valsartan and Ibuprofen were used as drugs for preparing solid dispersions. Suitable carriers in different ratios chosen were PVP K30 and HMPC etc. Methods: Solid dispersions were prepared by physical mixing and kneading method. The standard curve was prepared for cefixime, ibuprofen and valsartan in methanol. The release studies were carried out and compared. Results: The results showed a marked increase in release of the drug from solid dispersions compared to the drug in its pure form. Different ratios of carriers used also showed different responses. The ratio which showed the best release was considered as the optimized formulation. The details will be discussed in the presentation.

Key words: Solid dispersions, carriers, solubility
OPC-15-PP-04: DEVELOPMENT OF NOVEL POLYHERBAL CREAM FORMULATIONS CONTAINING WILD OMANI MEDICINAL PLANS AND COMPARATIVE EVALUATION OF ITS ANTI-ACNE PROPERTY

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Introduction: Plants are the oldest source of pharmacologically active compounds and have provided human kind with many medicinally useful compounds for centuries. The origin of many effective drugs is found in the traditional medicinal practices, so it is very important to undertake studies pertaining to screening of the medicinal plants for their proclaimed biological activity. We chose this topic for the following reasons: we wanted to conduct a practical experiment to discover herbal properties and investigate the cost-effectiveness, availability degree of acceptability of herbs to people. Objectives: The aim of this study is to prepare poly herbal cream formulations for the treatment of acne. The formulations contain six Omani medicinal plants: Sidr, Harmal, Neem, Basil, Thyme, Aloe Vera. Methods: Methanolic extract procedure: Neem and Harmal were shadow dried and made into fine powder. Sidr was purchased as powder form. Three different beakers were used and in each the respective amount of the herbs mixture was added. Then 20 ml of methanol was added to each beaker and put on the heating apparatus and heated at a temperature (60-80°C) until the methanol turned dark green that signifies the release of phytochemicals. Then, the obtained alcoholic extract was filtered. A thick liquid was obtained. The extract was dried at room temperature for about an hour until a semi-solid residue was obtained, weighed and kept for further use. Blank Cream Preparation method: Weighed amount of stearic acid was heated in a beaker at 80°C until it became a semi-solid then glycerin was added. This formed the oily phase. In another beaker distilled water, methyl paraben, propyl paraben and potassium hydroxide were added. The components were heated at 800°C. This formed the aqueous phase. When all of the stearic acid melted and the components of aqueous phase were dissolved, the aqueous phase was added to the oily phase. The beaker was removed from the heating apparatus and stirred vigorously until a thick consistent cream was formed. In order to speed the process the beaker was cooled under tap water and stirred at the same time until formulation was obtained. The total amount of methanolic extract was added to the obtained blank cream and stirred until a homogenous formulation was obtained. Results and Conclusion: The results proved that the prepared formulations are also having the acceptable property. The zones of inhibitions for the anti-acne activity were compared with the herbal marketed preparation for acne vulgaris. All the formulations (F8, F9, and F10) have shown effective zones of inhibitions. F9 showed the highest zone of inhibition 28mm, very close to the zone of inhibition given by Clindamycin gel 32mm. Key words: Ziziphus, Rhazya, Azardichta Indica, Ocimum basilicum, Aloe Vera, Thymus Vulgaris, polyherbal formulation, Acne treatment.
OPC-15-PP-07: DEVELOPMENT OF CREAM FORMULATION FOR TREATMENT OF ACNE

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Introduction: Acne Vulgaris is a common skin disease, that affect most individuals at least once during their life time. Herbal medications are considered safer than allopathic medications. We developed a cream formulation which contains the effective concentration of poly herbal extract.

Objective: 1- Preparation of poly herbal extract; 2- Evaluation of poly herbal extract; 3- Preparation of cream formulation; 4- Evaluation of anti-acne property of formulation; 5- Comparative study with blank and marketed formulation.

Methods: By extraction method, herbal oils were prepared from each herbal. The bottle method was used for cream formulation. Staphylococcus Aureus dish method was used for evaluation study.

Materials: Liquid paraffin, hard paraffin, emulsifying wax, glycerin, water, poly herbal extract (murahh oil, lupine oil, black seed oil), electronic weighting device, hot plate, camera.

Result and Conclusion: It will be available during presentation.

Key words: Acne vulgaris, Cream, Herbal
OPC-15-PP-10: IN SILICO MOLECULAR MODIFICATION STUDIES OF ATENONOL, THE SELECTIVE Ψ-ADRENERGIC RECEPTOR BLOCKER

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Introduction: The physiochemical properties and pharmacological activities of chemical entities depend upon the functional groups. In Silico, drug designing is carried by ligand based or structure based molecular designing. Once ‘lead’ molecule is identified with a particular activity, bioisosteric substitutions can be carried out to generate a number of virtual molecules in ligand based drug designing. Objectives: In this study, attempt is being made for the molecular modification of atenolol and then compare the bioactivity score of the analogues to predict the best drugged candidates. Methodology: In the preset study, a selective beta adrenergic blocker atenolol is rationally modified to generate a number of analogues using Chemsketch. Using SMILES notations of these analogues, drug likely parameters like log P, TPSA, Lippinski rule of five, rotational bonds etc were generated using online molinspiration software. (http://www.molinspiration.com/cgi-bin/properties). The biological activity selected for the comparison of virtual library of analogues was GPCR ligand score as the “lead” molecule is interacting with transmembrane G-Protein couple receptor type ( Ψ-adrenergic receptor). A robust analysis of SAR was carried our using online software, Prediction of Activity Spectra for Substances (PASS). The study targeted the adrenergic activity of the analogues with those with Pa value more than 0.9. PASS prediction of the compounds was done from the website: http://www.ibmc.msk.ru/PASS. Results & Discussion: Attempt has been made to compare the SAR of the analogues considering log P value, TPSA, Hydrogen bonding with biological activity GPCR ligand score and adrenergic receptor kinase inhibition values from PASS online. Among the 30 analogues prepared, compound 28 exhibited maximum score in molinspiration bio-activity, GPCR ligand value was 0.49 where as that of atenolol was 0.13. IN PASS online studies, max Pa value for GPCR kinase inhibition is shown by compound 4 (Pa =0.942) where as that for atenolol is 0.926. It was observed that introduction of polar function groups increase TPSA and the bioactivity. It is observed that there is no correction of bioactivity prediction using molinspiration and PASS online.

Key words: Atenolol, PASS online, Molecular Modification
OPC-15-PP-11: COMPARATIVE GC-MS ANALYSIS AND ANTIMICROBIAL ACTIVITIES OF THE VOLATILE CONSTITUENTS ISOLATED FROM THE PEELS AND LEAVES OF CITRUS AURANTIFOLIA L. GROWN IN OMAN

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Introduction: Volatile oil has always been a common source of medication. In Oman, lime trees have been used traditionally for many purposes and are widespread in many places. In particular lemon essential oils have an impressive range of food and medicinal uses. Objectives: In this study, we performed GC-MS analysis and compared antimicrobial activities of the volatile oil isolated from the peels and leaves of Citrus Aurantifolia L. grown in Oman. Methods/Materials: Four lemon varieties and their leaves were collected from North Al-Batinah, North Al-Sharqia, Al Dakhiliyah and Muscat. The oil was isolated from the peels and leaves by hydro distillation procedure using Clevenger apparatus. GC/MS was used to study chemical composition of the isolated oils. The antimicrobial activity of the essential oils was determined by agar well diffusion method against selected clinical bacterial isolates. Results: The oils were obtained in good yield. The limonene was found to be the major chemical constituent of the peels and leaves essential oils. The volatile oil show good antimicrobial activity. Conclusion: Limonene is the major constituent in the essential oils. The antimicrobial activity of the essential oils could be due to the limonene, the major constituent of the peels and leaves essential oil.

Keywords: GC/MS, Antimicrobial Activity, Citrus Aurantifolia, Volatile oil
OPC-15-PP-12: PREVALENCE AND MANAGEMENT OF ASTHMA IN PEDIATRICS IN MUSCAT REGION

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Introduction: Asthma is the most common chronic lower respiratory disease observed in childhood throughout the world. Symptoms of wheezing, coughing or shortness of breath are common among infants and children. Objectives: To investigate the prevalence and management of pediatric asthma in Muscat region. Methods: A retrospective study was carried out on 434 prescription pattern / drugs used in the management of asthma from two public health centers in Muscat region from 2013 to 2015. Result: The study shows that the prevalence of asthma was more in boys (68%) than girls (31.3 %). The most common symptom was coughing (28%), and Fluticasone and Salbutamol were the common medication used for treating asthma. Conclusion: The prevalence of pediatric asthma in children (1-12) years is high compared to the previous years record. Male children were found more at risk to get the asthma symptoms.

Key words : Asthma, Prevalence, Fluticasone, Coughing
OPC-15-PP-13: ADVERSE DRUG REACTION IN MUSCAT REGION

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Introduction: Adverse drug reaction (ADRs) continues to be of concern to all health professionals. Some ADRs are serious and likely to be reproducible and constitute absolute contraindications, whereas others are mild and may or may not occur on subsequent exposure. The mechanism of the ADR may be helpful in risk assessment. Objectives: The objective of the study was to study the pattern of occurrence of ADRs among patients in Muscat. Methodology: It was a prospective, descriptive study conducted over a period of a year (2014-2015) involving 1300 patients from a hospital. MOH factors like age and sex distribution, most common drug classes involved in ADRs and the most common ADRs were analyzed. Result: The mean age of patients with ADRs was 41.86. The highest number of patient was reported in the age-group of 45-55. In terms of gender, ADRs were observed very high with females (61.1 %) while males showed (35.8 %). The most common observations of ADRs were seen in Lisinopril, Ibuprofen and Metformin respectively. On the other hand, antibacterial showed high percent in ADR (16.5 %). According to the Drugs Pharma Group -oral route of medications showed highest ADR percent (72.6 %). Conclusion: Awareness about adverse reaction monitoring can be improved by conducting CME programs and workshops for the hospital staff which could increase the ADR reports from the hospital, which in turn, could reduce the morbidity and mortality of the patient.

Keywords: Adverse Drug Reaction (ADRs), Spontaneous Report, Lisinopril, Allergy, Antibiotics.
OPC-15-PP-14: QUANTIFICATION OF TOTAL PHENOL, FLAVONOIDS AND EVALUATION OF FREE RADICAL SCAVENGING ACTIVITY OF DIFFERENT FLORAL ORIGIN HONEY FROM OMAN - A COMPARATIVE STUDY


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Introduction: Honey is a sweet food made by bees using nectar from flowers. It serves as a source of natural antioxidants. Objectives: This study was undertaken to evaluate and compare the physiochemical properties, total phenolic content, total flavonoid content and in-vitro antioxidant activity of twenty two types of monofloral and heterofloral Omani honey. Materials and Methods: Twenty two honey samples from different floral origins and regions of Oman were collected from the honey suppliers and their physicochemical properties were studied such as color, density, pH, viscosity, water content, sugar content and refractive indices etc. Total phenolic and flavonoid contents were quantified by Colorimetric Methods while antioxidant activity was evaluated by DPPH free radical Scavenging Assay Method. Results and Discussion: Our results clearly show significant variations among honey samples for all evaluated parameters. Monofloral honey from Salalah, Samail, and Al-Khaboora showed good inhibition of DPPH radical. Highest amount of total phenol was found in monofloral honey from Al-Dhahira, while the highest amount of flavanoid was observed in a monofloral variety from Salalah. A direct relationship between phenol, flavenoid and inhibition of DPPH was also observed. The variation in studied parameters could be due to difference in botanical origin and due to different geographical and environmental conditions. Conclusion: It can be concluded that the monofloral types of honey can be considered particularly useful for human nutrition because of their high phenolic and flavonoid contents which are known for their antioxidant activity.

Keywords: Honey, Monofloral, Heterofloral, DPPH, Total Phenol
OPC-15-PP-15: PHYTOCHEMICAL SCREENING, TOTAL PHENOLIC, FLAVONOID CONTENTS AND EVALUATION OF ANTIOXIDANT POTENTIAL OF AERIAL PARTS OF HAPLOPHYLLUM TUBERCULATUM (FORSSK) A. JUSS: AN OMANI TRADITIONAL MEDICINE

Aziza Salim AL-Brashdi, Hebbatallah AL-Ariymi, Maha Al Hashmi and Shah Alam Khan

Introduction: Haplophyllum Tuberculatum (Forssk) A. Juss is grown in many parts of the world including Oman, Saudi Arabia and Qatar. Its leaves are used as a traditional medicine in Oman for the treatment of inflammatory conditions. Objectives: This study is aimed to perform phytochemical screening, estimate total phenolics, flavonoids and to evaluate in-vitro antioxidant activity of different extracts of Haplophyllum Tuberculatum leaves. Methods: The dried powdered leaves of Haplophyllum Tuberculatum (50 g) were extracted exhaustively by cold percolation with ethanol and then fractionated into petroleum ether, chloroform, acetone and methanol. All the prepared extracts were tested for the presence of phytochemicals. Folin ciocalteu reagent and aluminium chloride colorimetric methods were used to estimate total phenolic and flavonoid content of acetone, chloroform and methanol extracts. Petroleum ether extract was omitted because it did not show presence of either tannins or flavonoids. 1-diphenyl 2-picrylhydrazyl (DPPH) and 3-phosphomolybdenum were used to determine in vitro antioxidant and total antioxidant activity in comparison to standard ascorbic acid. Results: Phytochemical analysis of extract showed presence of major classes of phytochemicals. Methanol extract was found to contain the highest phenolic content (561.22 mg/g of gallic acid equivalent) and flavonoids (165.54 mg/g of quercetin equivalent). In-vitro antioxidant activities of all crude extracts were found to be low in comparison to the standard ascorbic acid. A direct relationship was observed between phenolic content and antioxidant activity. However, total antioxidant capacity of the plant extracts was observed to be significant as ascorbic acid equivalent. Conclusion: Results of this study showed that the leaves of H. Tuberculatum are a rich source of phenolic compounds that can be used to prevent the progression of many diseases.

Keywords: Haplophyllum Tuberculatum, Total Phenol, Total Flavonoid, Anti-oxidant
OPC-15-PP-16: STANDARDIZATION AND ANTIBACTERIAL ACTIVITY OF SALVADORA PERSICA ROOTS GROWN IN SALALAH REGION

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Introduction: In the Middle East, the most common source of chewing sticks is Arak (Salvadora persica). Arak, a tree used for Miswak, is also known as "tooth brush tree". Objectives: To collect the roots of Salvadora Persica and make it into powder form; to do standardization with different parameters; to prepare crude extracts of roots of Salvadora Persica with different organic solvents; to evaluate the antibacterial activity of the extracts. Methods: Standardization of crude drug samples using following parameters- Preliminary phytochemical screening (Peach and Tracy, 1955), Fluorescence analysis (Kokoshi 1958), Extractive value (Indian Pharmacopoeia 1966), Loss on drying (Indian Pharmacopoeia 1966) Antibacterial activity: The extracts of Salvadora Persica root was tested for their antibacterial activity using available microorganisms such as gram positive bacteria (Staphylococcus Aureus) and gram negative bacteria (Escherichia Coli)on nutrient agar plates using a slightly modified disc diffusion technique. Results & Discussion: Phytochemical screening indicates the presence of primary and secondary metabolites. Extractive values of the drug with the different solvents were found to be for petroleum ether extract 3.3%, chloroform extract 5.6%, ethanolic extract 9.4%, and water extract 11.3%. Loss on drying of Salvadora Persica root powder was 1.24%. All the three extracts (petroleum ether, chloroform and hydro alcoholic) of Salvadora Persica showed good antibacterial activity. Especially hydro alcoholic extracts showed very good inhibitions. Conclusions: Valuable information regarding the standardization and antibacterial activity were obtained from this study. It will be an advantage for future research on this plant in Oman.

Key words: Anti-bacterial activity, Salvadora Persica, Salvadoraceae, Oman
OPC-15-PP-17: PHYTOCHEMICAL INVESTIGATION AND ANTI-OXIDANT ACTIVITY OF CYMBOPOGON CITRATUS LEAVES GROWN IN OMAN

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Introduction: Lemon grass is native to Indonesia and is cultivated in most of the tropics, including Africa, South America and Indo-China. The name Cymbopogon is derived from the Greek words kymbe (boat) and pogon (beard), referring to the flower spike arrangement. *Cymbopogon Citratus* of the Poaceae family is a tall aromatic coarse grass of 1.5 m high.

Objectives: To prepare crude extracts of leaves of *Cymbopogon Citratus* from Oman with different organic solvents; to perform preliminary phytochemical screening of the extracts; to evaluate the antioxidant activity of the extracts.

Methods: Preliminary phytochemical screening (Peach and Tracy, 1955); Radical scavenging activity using DPPH method; determination of total phenolics.

Results & Discussion: Phytochemical screening indicates the presence of primary and secondary metabolites in petroleum ether, chloroform, alcohol and water soluble parts in the drug. Carbohydrate, phenolic compound, flavonoids, terpenoids and lipids were reported. Hydro-alcoholic extracts showed maximum activity. Chloroform extracts showed 83.82% inhibition, petroleum ether 93.02% and hydro-alcoholic extracts showed 97.75% at dose of 200µg/ml. The amount of the total phenolics is petroleum ether 17.39% w/w, chloroform 46.14 % w/w and highest in hydro-alcoholic extract 79.75 % w/w.

Conclusions: Valuable information regarding the antioxidant activity obtained from this study. The leaves of *Cymbopogon Citratus* could be a good source of antioxidant. Further studies are needed for the isolation and identification of individual phenolic compounds and also in vivo studies are needed for better understanding of their mechanism of action as antioxidant.

Key words: *Cymbopogon Citratus*, Lemon grass, Poaceae, DPPH.
OPC-15-PP-18: EVALUATION OF PATIENT’S KNOWLEDGE ON WARFARIN AND PHARMACIST’S ROLE IN PATIENT EDUCATION AND COUNSELING


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Introduction: Anticoagulants are a class of drugs that work to prevent the coagulation (clotting) of blood. Vitamin K antagonists remain the main anticoagulation medications to prevent various cardiac, thromboembolic and hypercoaguable diseases. Warfarin is a commonly and widely used anticoagulant. The adverse event reporting system of Food and Drug Administration (FDA) reveals that warfarin is among the 10 drugs with largest number of serious adverse events reported during the last 2 decades thus patient counseling and education is important to ensure safe and effective treatment. Objectives: The study was conducted to evaluate the extent and quality of the patient’s education on warfarin and to assess pharmacist’s role in patients counseling and education. Other objective was to identify the most common drug interactions of warfarin and their effects on the warfarin dose. Methods: It was a cross sectional study conducted by distributing self-administered questionnaire given to all patients attending the warfarin clinic in Seeb and Bousher polyclinic and assessing the pharmacist role in educating and counseling the patients from the presented questionnaires. Result and discussion: A total of 100 patients (56 Male, 44 female) accepted to complete the questionnaire and met the study inclusion criteria while 34 refused to take part in the study. Patients received warfarin for the following indications: Atrial fibrillation (n=42), other rhythm disorders (n=29), prosthetic valve (n=8), Deep vein thrombosis (n=17) and surgery prophylaxis (n=4). Other medical conditions associated with these patients were Hypertension (n=74), Diabetes (n=68), Chronic heart failure (n=3), and Renal impairment (n=9). 92% of patients reported to have received previous warfarin education and 98% had the warfarin booklet with them. Conclusion: Almost all patients stressed on the need and importance of education about warfarin and its need to be conducted on regular basis.

Key words: warfarin, anticoagulant, counseling

Jubran NN and Nazmi AS

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Introduction: The greater part of the Arabian nations encounter an exceptionally dynamic populace flood as workers, travelers, or pilgrims, and as an aftereffect of local wars in the Arabian Peninsula, numerous have moved their habitation and speculations towards politically stable nations, for example, Oman. In this manner the risk of development and re-rise of infectious diseases has expanded. Infection prevention and control measures intend to guarantee the protection of the individuals who may be defenseless against gaining an infection both in the general community and in a range of settings. Objectives: The study was conducted to assess the degree of awareness of the Omani society in Muscat region of infection control definition and measures and to identify the variables that affects the degree of awareness of different layers of the population. The study was planned to find ways and method to increase the awareness of infection control measures among the Omani society in Muscat and other regions. Methods: The study was carried out by utilizing a structured questionnaire having both open ended and generally closed ended questions to the residents of Muscat city. The questionnaire was distributed randomly to both males and females, aged 20 and above. The targeted sample size was 300. Result and discussion: It has been assessed from the study that people with higher degree of education were more aware about the infection control and try to read articles and books on infection control. People with Graduation response was also only partial (one third only) in avoiding shaking hands with people with cold and flu. Conclusion: Infection can have an inconvenient and possibly life-debilitating effect on the wellbeing of the individual, thus Infection control is as vital in the community as it is in an intense healing facility. This study suggested that there is a need to do something vigorously to increase the public awareness about infection control.

Key words: Infection control, awareness, cold and flu
OPC-15-IS-17: STRATEGIES TO MINIMIZE HUMAN ERRORS TO ADDRESS SAFER HEALTH CARE SERVICES

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Nowadays, thousands of patients are treated in our hospitals safely by committed and qualified healthcare professionals who are keen to provide high quality and safe clinical care. Those healthcare workers are human beings, and like all humans under certain circumstances, are frail. All people make mistakes in things they do, or forget to do, and the impact of these errors are often do not exist, minor or simply creates inconvenience. Nevertheless, in healthcare there is always a chance that the consequences could be catastrophic. Human factor study is the relationship between human beings and the systems with which they interact, and focuses on improving efficiency, productivity, creativity and job satisfaction, with the goal of minimizing errors (to err is human). Human factor engineering and studies has been extensively implemented in aviation and nuclear power industry. In healthcare, addressing those factors for example when buying medical equipments, prescribing, dispensing and administering medications, doing clinical rounds, handing over patient information or having an evening or night duties can greatly minimize medical errors and risks. Under human factors concept, the key in identifying error root causes is to find out how people’s assessments and actions made sense at the time error happened and the circumstances that surrounded them. Fatigue, stress, poor communication, distraction and physical surrounding such as poor lighting are known factors that contribute to medical errors. This lecture aims to provide awareness to the concept of human factors in healthcare and present strategies and implications on how to address human factors thinking to our healthcare systems for a safer healthcare experience.
OPC-15-PP-21: SYNTHESIS OF SOME NOVEL 4H- BENZO[D][1,3]-OXAZINE-4-ONE AND QUINAZOLIN-4(3H)-ONE DERIVATIVES IN SEARCH OF POTENT AND SAFER ANTI-INFLAMMATORY AGENTS

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Introduction: Benzoxazine and quinazoline are nitrogen containing heterocyclic compounds which are present in various biologically active compounds. Both the heterocyclic rings are associated with diverse biological actions, therefore considered as an important scaffold for the design of molecules of pharmaceutical interest.

Aim: To synthesize and evaluate the in vivo anti-inflammatory activity of few novel 4H-benzo[d][1,3]-oxazine-4-one derivatives and their nitrogen analogs.

Materials and methods: Benzoxazine derivatives (3a-f) were synthesized by cyclizing free carboxylic group (-COOH) of six non steroidal anti-inflammatory drugs (2a-f) with anthranilic acid (1) in presence of dry phosphorus oxychloride in pyridine. The corresponding quinazoline derivatives (5a-f) were prepared by treating the benzo-oxazine compounds (3a-f) with isonicotinic acid hydrazide (4). Compounds of both the series were also evaluated for anti-inflammatory, analgesic activity and ulcerogenicity in animal models by reported methods.

Results and Discussion: The structures of all newly synthesized compounds were confirmed with the help of IR, ¹H NMR, ¹³C NMR and Mass spectral studies. Elemental analyses data for each element analyzed (C, H, N) was found to be within acceptable range of ±0.4 %. Whole series of benzoxazine derivatives, but in particular compound 3d, showed better anti-inflammatory and analgesic activity along with reduced gastrointestinal toxicity as compared to their nitrogen analogs. The results of anti-inflammatory and analgesic activities of both the series are comparable with the respective, positive control.

Conclusion: Compound 3d, a benzoxazine derivative, emerged as a lead molecule which exhibited potent anti-inflammatory and analgesic activity with significant reduced gastric toxicity.

Key words: Benzoxazine, Quinazoline, Anti-inflammatory, Heterocyclic


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Introduction: Dandruff is a common scalp disorder affecting almost half of the postpubertal population of any ethnicity and both genders. Objectives: to identify the active ingredient of commercially used commercial and prescribed antidandruff shampoos in Omani market which will promote a better choice of treatment. Methods: product survey (13 products) and public survey (100 questionnaires) and medical prescriptions (64 prescriptions) were used as sources of information. The work was conducted in the period from May – September 2015 followed by data collection and analysis. Results: five of six commercially popular anti-dandruff shampoos contain zinc pyrithione on the other hand prescribed anti-dandruff products contain ketoconazole, ciclopirox olamins and selenium sulfide as an active ingredient. In 64 prescriptions, Nizoral (27.5%), Keto-plus (13%) and Kenazol (9.5%) were the most prescribed products by dermatologists which contain ketoconazole, and in 41 of these prescriptions are prescribed in combination with other drugs mainly steroids such as betamethazone and memazone or antifungal such as fluconazole. Large numbers of participants in the survey are currently suffer and previously suffered from dandruff and 79% of them normal (commercial) shampoo is being used to treat dandruff which is mainly head and shoulders brand. Conclusions: Although ketoconazole preparations are much more effective in treating dandruff, commercial shampoos are much more popular choice among public as they are heavily advertised and convenient in cost and availability. It seems that the anti-dandruff effectiveness of commercial shampoos could be that dandruff is a mild condition that is related to scalp hygiene.

Key Words: Dandruff, Anti-dandruff shampoo, zinc pyrithione, ketoconazole
OPC-15-PP-23: STUDY OF MEDICATION ERRORS IN HOSPITALS IN OMAN

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Introduction: Medication error is one of the most common medical errors which is harming at least 1.5 million people every year. Objectives: The objective of the present study was to study prevalence of such errors in Oman. Our aim was to collect retrospective data for six months after taking due permission from Diwan Hospital and study the prescription errors. Method: Our objective was to study the percentage of errors (prescribing and dispensing errors) from the total number of prescriptions handled during that period. Results: Our objective was also to carry out statistical analysis of data obtained. For Collection and study of prescriptions, permission was taken from Diwan hospital. Since it was a retrospective study, six months data was used. Prescriptions were collected for the period ranging from March 2014 to August 2014. Various observations reported were that out of three hundred prescriptions collected under medication errors 250 prescriptions had prescribing errors, whereas 50 prescriptions had dispensing errors. The details will be presented in the presentation.

Key words: Medication errors, hospitals

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Introduction: Computer aided drug designing is used in modern medicinal chemistry as a tool for drug discovery and development. Computer-aided or in silico design is being utilized in ligand based drug designing to expedite and generate hits. In this process the lead molecule is identification first and carryout molecular modification using bioisosteric substitution. The generated molecules shall obey Lippinski rule of five and other physicochemical properties for drug likeness. Software is used to predict bioactivity score and ADME toxicity parameters.

Objective: In the present study we envisaged to carry our molecular modification of a well known drug, Lorsartan, a selective, competitive angiotensin II (AT1) receptor antagonist in an attempt to generate in silico analogues having better activity using software like Molinspiration and PASS online.

Methodology: Using Chemsketch version 2012, analogues of lorsartan were generated using the principle of bio-isosterism. SMILES notations were generated and imported in molinspiration software to get the physicochemical parameters like TPSA, log P. Lippinski rule violation and bioactivity score. Among the bioactivity scores, GPCR ligand values was selected as the lead molecules acts on angiotension II receptors. Further the bioactivity prediction was carried out using PASS online software whereby the predicted activity scores on angiotensin AT1 receptor antagonist were compared with lead and analogues. Attempt was made correlate the structure of analogues and the activity scores.

Results and discussion: Using Chemsketch 25 analogues obeying Lippinski rule of five were generated. The SMILES notations of these analogues were imported in Molinspiration online free software to generate descriptors and bioactivity. Most of the analogues obeyed Lippinski rule of five and analogue 16 and 4 exhibited highest GPCR ligand values (1.05 and 0.91 respectively when compared to Lorsartan which showed 0.83). The bioactivity prediction using PASS online soft was done by importing SMILES notation. The activity score (Pa) of angiotensin AT1 receptor antagonist score were taken as the index. Losartan showed score of 0.987 in Angiotensin AT1 receptor antagonist activity where as all the 25 analogues showed less activity. Among the analogues, compound 13 showed 0.827 score. Whereas the compound 16, which showed maximum activity in molinspiration software exhibited only 0.550. Conclusion: The software can help us to predict and compare the biological activity within it. But the activity prediction using different software varies a lot.

Key Words: Molinspiration, PASS online, Lorsartan
OPC-15-PP-24: KNOWLEDGE, ATTITUDES AND SATISFACTION OF MOTHERS TOWARDS CHILDHOOD IMMUNIZATION IN A TRADITIONAL CITY IN OMAN

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Introduction: Immunization of infants and young children against serious infectious diseases is among the most successful and cost-effective interventions in preventative health care. Objective: The aim of this study is to address Omani mothers’ knowledge and attitude towards childhood immunization in wilayat Saham in north Al-Batinah governorate, Oman. Immunization barriers and mothers’ satisfaction regarding immunization services are also investigated. Methods: One hundred questionnaires were distributed to mother in the participating households and filled through face-to-face interviews followed by data processing and analysis. Results: Mothers have an overall sufficient level of knowledge about immunization with 37% very good, 35% good and 28% poor which was significantly correlated (p= 0.001) with their education. Moreover, mothers showed some level of attitude towards immunization which was significantly associated with the mothers’ level of knowledge. Frequent reminders about upcoming immunization date was found to be a popular choice by mothers (48%) as an approach which can be communicated by health authorities. Conclusion: Mothers have sufficient knowledge and positive attitude on some aspects of childhood immunization. Furthermore, fear of immunization and parents’ education should be further investigated.

Key words:
Childhood immunization, knowledge, attitude, immunization barriers
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