



Editorial

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From the Dean's Desk



It's a time for another exciting issue of DPC Newsletter. The launch of DPC Newsletter just took place in end of the year ceremony last month and I was happy to receive the warm welcome to this creative effort. I personally thank all the faculty members for their support and warm wishes for our news letter.

This is actually a crucial time for us as the students are busy with their exams and we are not able to see their creativity much in this issue. I wish they do well in their exams and we will hopefully see loads of creativity of our students in upcoming issues.

Lastly, I would like to wish our faculty, staff and students a great vacation and Happy Ramadan.

--Prof. Saeed Ahmad Khan

DPC Newsletter Launch

After putting lots of efforts, finally, the DPC Newsletter was successfully launched during 'End of the year' ceremony organized by Dubai Pharmacy College last month. Prof. Saeed Ahmad Khan, Dean, Dubai Pharmacy College has announced the launch of the DPC Newsletter, a monthly publication of Dubai Pharmacy College. He called entire team of DPC Newsletter; on the stage and congratulate the entire team. He also appreciates the work and efforts of whole team. The entire team received huge compliments and wishes from the staff members and the students of DPC. It was really a memorable experience.

Pharmacogenomics: Revolution in Pharmaceutical Sciences

The rapidly emerging field of pharmacogenomics is the study of how an individual's genetic make-up affects the body's response to drugs. In the post genomic era, molecular techniques are now becoming increasingly important in the clinical diagnostic laboratory and pharmacotherapy. The genotyping of drug metabolizing enzymes is considered by oncologists, pain management clinics, neuropsychiatry wards, Warfarin clinics when making prescribing decisions.

Pharmacogenomics may be one of the most immediate clinical applications of the human genome project. Moreover it encompasses the genetic predisposition to disease and how that may affect the selection of a specific therapy for patients with certain genotypes or how the information can be used to predict the outcome of a therapeutic intervention. Pharmacogenomics is thus an integrated field of customized patient care.

There are at least 5 DNA tests that can predict the risk of disease and its pathway, allowing clinicians to select specific therapies. The best examples of this use of this discipline are fluorescence in situ hybridization (FISH) technology testing, Her2/neu for breast cancer, factor V and factor II mutation tests for deep venous thrombosis and thiopurine methyl transferase (TPMT) testing for cancer, inflammatory bowel disease and rheumatoid arthritis. These tests already allow physicians to identify which patients would benefit from specific therapy and to select the correct drug and dosage.

Some of the diagnostic industries such as Nanogen (San Diego, California) and IQuum (Allston, Massachusetts) have successfully developed various platforms for large scale genetic testing with specific applications in pharmacogenomics.

Introduction of such services and products through the pharmacy and under the pharmacist's supervision will introduce a new set of responsibilities for pharmacists which may include the interpretation of the results for patients and/or physicians for which pharmacists may be compensated. However to understand and interpret the results of pharmacogenomics testing, pharmacists will require additional training and thorough knowledge in this field.

However, there are ethical and legal issues related to the use of pharmacogenomic information in drug therapy. Pharmacists also have a duty to warn their customers of the potential adverse effects or other problems associated with the prescribed drug therapy. The increased amount of genetic information in pharmacies raises privacy and confidentiality concerns. For physicians and pharmacists, the issue of completing continuing professional education and maintaining accurate records of it will become more important, not only for improving competency but also preventing liability.

An increasing number of schools of pharmacy in the United States of America have implemented this subject in their curriculum. This indicates

the ever growing importance of the pharmacogenomic field to the future of pharmacotherapy.

Fortunately our college is the first college in the UAE to realize the importance of this pharmacogenomics and has incorporated it into the curricula to familiarize the students with the advancements in the field of pharmacogenomics.

I predict pharmacogenomics will become an important component of professional activity in pharmacy and medicine in the coming decade. The field of pharmacogenomics undoubtedly will present a great opportunity for providing individualized drug therapy with minimal risk and thus leading to optimal drug therapy.

We still have a long way to go before routine implementation of pharmacogenomics in clinical practice is achieved. Therefore, academic and healthcare leaders of every country need to plan to incorporate pharmacogenomics into their curricula and familiarize themselves with advancements in the field of pharmacogenomics to ensure best health care related to the drug therapies of the future.

Dr.Ghazala Afreen Khan

M.Sc(Molecular Biology), PhD (Genetics)

LABORATORY TESTING FOR THE PRESENCE OF HEAVY METALS

Introduction

Living organisms require varying amounts of "heavy metals." Iron, cobalt, copper, manganese, molybdenum, and zinc are required by humans. Excessive levels can be damaging to the organism. Other heavy metals such as mercury, plutonium, and lead are toxic metals that have no known vital or beneficial effect on organisms, and their accumulation over time in the bodies of animals can cause serious illness^{1,2}.

There are 35 metals that concern us because of occupational or residential exposure; 23 of these are heavy metals: antimony, arsenic, bismuth, cadmium, cerium, chromium, cobalt, copper, gallium, gold, iron, lead, and zinc³.

This article is highlighting the laboratory diagnosis for heavy metal poisoning.

Laboratory Testing and Diagnosis for Heavy Metals Intoxication

Arsenic

Arsenic levels can be measured in blood, urine, hair, and fingernails. Because arsenic clears fairly rapidly from the blood, blood tests are not always useful⁴. Therefore, urine tests are the most reliable for arsenic exposure within the past few days; hair and fingernail testing are used to measure exposure over the past several months, abdominal X-rays can reveal metallic fragments⁵.

Lead

When there are presenting symptoms of lead toxicity, blood testing is done. Blood lead levels in children higher than 10 µg/dL are considered to be of concern⁵. Symptoms in adults may not appear until blood lead levels exceed 80 µg/dL⁴. However, medical treatment is usually necessary in children who have levels of 45µg/dL. Significantly lower levels of 30µg/dL in children can cause mental retardation or cognitive and behavioral problems. A complete blood count (CBC) is also done to check for abnormalities on red blood cells (basophilic stippling). In children, long-bone x-rays may reveal bands called "lead lines" that indicate failure of the bone to rebuild. These bands are not actual lead concentrations, but are bone abnormalities. Adults do not have lead lines. X-rays of the abdomen can reveal swallowed objects, such as paint chips, fishing sinkers, curtain weights, or bullets. A less common test is measurement of lead in teeth. All children with brain-related symptoms should be considered for lead toxicity⁵.

Mercury

A 24-hour urine specimen is collected for measurement of mercury levels. Chest x-rays can reveal a collection of mercury from exposure to elemental mercury or a pulmonary embolism containing mercury. Abdominal x-rays can reveal swallowed mercury as it moves through the gastrointestinal tract. Blood and urine samples are used to determine recent exposure, as well as exposure to elemental mercury and inorganic forms of mercury. Scalp hair is used in testing for exposure to methylmercury. Liver and kidney function tests are also important in severely exposed persons. Blood mercury levels should not exceed 50 µg/L⁵.

Cadmium

Laboratory testing procedures for cadmium toxicity includes collection of a 24-hour urine specimen, CBC, and hair and fingernail clippings. Blood levels show recent exposure; urine levels show both recent and earlier exposure. Blood levels of cadmium above 5 µg/dL and creatinine levels in urine above 10 µg/dL suggest cadmium toxicity⁴.

References

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Dr. Eman F. Abu-Gharbieh,

Associate Professor of Pharmacology and Toxicology, DPC

ACHIEVEMENTS

Congratulations

We congratulate **Dr. Bazigha K. Abdul Rasool** on her recent promotion as *Associate Professor* in the Department of Pharmaceutics and Pharmacy Practice at DPC. Our best wishes for her continuing path of success. Dr. Bazigha Abdul Rasool has been associated with Dubai Pharmacy College, Department of Pharmaceutics and Pharmacy Practice since Sept. 2007.



Prior to joining DPC she has taught at Baghdad University, Al-Mustansyria University and Baghdad Pharmacy Private College. She served as a Head of Continuous Education Program in Baghdad University and as a Head of Examination and Evaluation Unit in DPC for three years. She published around 20 articles and abstracts in international peer reviewed journals.

Her research qualifications have established her as a member of editorial board and a reviewer for various pharmaceutical scientific journals.

Congratulations



We congratulate Dr. Naglaa Gamil, Head of Pharmacognosy and Phytochemistry, for receiving the best published research award for her research work “**Antitrypanosomal activity of some pregnane glycosides isolated from *Caralluma* species**” from University of King Abd-El Aziz, King Saudi Arabia.

ACHIEVEMENTS

Congratulations to Toppers of Batch 16

DPC congratulates the toppers of the Batch 16 of Dubai Pharmacy College. The Names of the first five rank holders are:

Rank	Name	CGPA (Out of 4.00)
1	Rumaisa Farheen	4.00
2	Lama Adnan Foaad Lathen	3.97
3	Omaimah Mukarram Ali	3.96
3	Sara Gamal Abdel Kader	3.96
4	Kawther Ben Hammouda	3.94
5	Hebatoalla Abdalrazak	3.93

Special congratulations to Rumaisa Farheen, the only girl has secured 4.00 out of 4.00 CGPA. Rumaisa is directly got appointed through on campus interview as QHSE (quality, health, safety and environment) manager, a high profile job in Tranzone logistics Fzco (branch of Banaja holdings, Saudi Arabia).

EVENTS

DPC HOLDS END OF THE YEAR CEREMONY

End of the year ceremony was held on **6th JUNE, 2011** at Round Hall. For successfully fulfilling the requirements of Bachelor of Pharmacy (B.Pharm) Degree Program, Batch-16 received a souvenir and a certificate. Representing class of 2007, Omaimah Mukarram Ali expressed gratitude and appreciation towards the college & faculty members.

**DUBAI PHARMACY COLLEGE takes part in
EPIC DUBAI - The Sustainable Living EXPO**

E Ecowise
P Progressive
I Intelligent
C Consumer

EPIC is produced by SUSTAINABLE MEDIA GROUP LLC (SMG), a joint venture of **S.S. Lootah** International and **GLOBE Events**. Both partners share very strong synergies through a common vision of promoting the business of environment and a shared belief that a sustainable future rests on sincere collaborative efforts.

SS Lootah has been promoting eco-friendly initiatives for the last 50 years. This expo promoted intelligent eco-friendly choices to the consumers. Today's consumers are looking for new companies to believe in, that offer products and services that **leave a softer footprint on the earth**.

EPIC DUBAI reaches out not only to an environmentally aware audience, but also to an emerging and vast group of consumers looking for information and knowledge to help them make better, more informed purchasing choices.

EVENTS

Dubai Pharmacy College participates in EPIC DUBAI held at Dubai Mall on 22nd, 23rd and the 24th of June 2011

Student Volunteers

Sara Gamal
Kawther Benhammouda
Sulafa Abdel
Amna Ibrahim
Rahma Taher
Omaima Mukarram
Saleha Kazi
Dalia Gamal
Al Hanouf Motlaq
Hamdah Jemei

Faculty and staff participants

Mrs. Sabeena Salam
Ms. Rana Sammour
Ms. Eman Shamsuddin
Ms. Yosra Adnan
Ms. Maha Farajallah
Ms. Aisha Abdullah
Ms. Amina Zarar



RAMADAN

“Ramadan is the month in which was sent down the Quran as guidance for mankind and as a book containing clear proofs of guidance and the criterion of rights and wrong...”

[2:185] [Bukhari]

The blessed month of Ramadan inculcates the spirit of self-restraint to purify the soul, mind and body to attain proximity to The Creator. The radiance that perpetuates during this month, which is truly a Blessing from Allah, brings peace to the soul and strength to the heart. It was during this month in 610 AD, that Allah revealed the first five verses of the Holy Quran to Prophet Muhammad through the angel Jibrail.

Fasting is one of the five pillars of Islam. It is more than the meaning of fasting in popular culture nowadays – plain abstinence from food and water from dawn till dusk. It is a time to abstain from thoughts that bring harm and fallacy, committing unlawful deeds with the eyes and ears, to restrain the tongue from lies and purposeless gossip. The month long fasting serves a reminder the Muslims of the hardship faced daily by the less fortunate and encourages them to do charity.

The essence of Ramadan promotes and fosters the feeling of brotherhood amongst all Muslims regardless of where they maybe or what their social standing maybe as they join together in prayer seeking forgiveness and guidance from their Lord. Muslims spend much of their time in devotion to

Allah, reading the Quran and doing good deeds. The month of Ramadan revitalizes the spiritual fervor and purifies one's thoughts, behavior and character.

Narrated Abu Huraira (RA): The Prophet said:"... whoever fasts during Ramadan out of sincere faith and hoping to attain Allah's rewards, then all his past sins will be forgiven."

[Sahih Al-Bukhari]

GUIDELINES FOR A HEALTHIER RAMADAN:-

Healthy eating emphasizes on moderation and balance. This becomes all the more important during the month of Ramadan. Exaggerated lavishness is often displayed in the cuisine served for Iftar. Health problems can arise due to the combination of excess food intake and insufficient sleep.

During the month long fasting, the metabolic rate is reduced and there is utilization of the body's stores of fat and dietary fat. A balanced diet will reduce constipation, gastric acidity, and fatigue and contribute to a more active and healthier lifestyle during Ramadan.

1. For Suhur: a light meal consisting of fruits, vegetables and complex carbohydrates such as semolina, wheat, barley, lentils, etc. Complex carbohydrates take longer to digest and can sustain you through the duration of fast. Fruits and vegetables provide fiber, vitamins, minerals and other essential nutrients
2. For iftar: Eating excess of food immediately at iftar should be avoided as it can overload the digestive system. Dates are the best to consume for breaking the fast as they are an ideal source of glucose

and quickly restore the low blood glucose levels to normal. Soups and juices maintain the fluid and mineral balance in the body.

3. Reduce caffeine intake. Caffeine acts as diuretic and increases the loss of necessary minerals and water from the body. Caffeine is found in tea, coffee and fizzy beverages.
4. Increase fruit intake. Dates are an excellent source of fiber, carbohydrates, potassium and magnesium. Bananas provide potassium, magnesium and carbohydrates.
5. Stay hydrated between Iftar and Suhur to avoid dehydration.
6. Reduce intake of fried foods, fatty foods and avoid refined flour & sugar which have very little nutritive value. Fried foods contribute to indigestion and acidity.
7. Include lots of fiber in the diet. Constipation, muscle cramps, peptic ulcer, heart burn, gastritis, kidney stones are all a result of too much fried and fatty foods, too much refined foods, too little water and not enough fiber in the diet.
8. Stop or reduce smoking. Smoking adversely affects the utilization of nutrients such as vitamins.
9. Consult the physician before fasting, in case you are diabetic, suffering from peptic ulcer or any other gastric ailment.

Sara S. Kamal (Alumni)

Batch:13