ABSTRACT BOOKLET

RESEARCH DAY
December 2011
President’s Message

The essence of a University is that its teaching is either research led or research informed. It is this more than anything else that distinguishes a University from all other teaching environments.

While this pre-suppose that University academics are research active or research informed, it also suggests that university students should develop an appreciation of the value of research in their academic and professional development. It also suggests that they should be introduced to and acquire the skills of conducting research in terms of formulating research questions, deciding upon a research design, implementing the research project and reporting the findings. It is through this kind of exposure that students begin to appreciate the nature and complexity of scientific research and to develop the academic skills and imagination which can underpin their professional and personal development throughout their lives.

Within the medical and cognate professions the possibilities and the necessity for ongoing research are self-evident. New diseases continue to emerge and old ones continue to present challenges and barriers to scientific knowledge and intervention. Life style changes and ongoing changes in the ambient environment mean that healthcare professionals and systems must continuously adapt to changing contexts. The task of developing effective and affordable healthcare systems is proving increasingly elusive throughout the world.

I am delighted therefore for all these reasons to welcome this publication and to congratulate all those associated with it. It draws attention to the way in which RCSI Bahrain is growing a research culture among staff and students as well as to the importance of a localized research infrastructure in the University and in the country as a whole. It highlights the many areas of expertise and research interest within the University and draws attention to the innovative ways in which organized research activity can interweave the teaching and learning processes in the University.

Tom Collins
President, RCSI Bahrain
Introduction

It is with pleasure that I welcome you to the second RCSI Bahrain Research Day. This is an opportunity for the university, students in particular, to showcase research that is progressing within the university. We have had 28 submissions for Research Day this year and have been impressed by the quality of these. We hope you enjoy browsing the posters and listening to the presentations.

Days of this nature take much organizing and I would like to thank members of the Research Committee who gave extra time to this: Evelyn Anand, Declan Gaynor and Orla Merrigan. I would also like to thank those students who helped out: Manal Ahmed, Julia Fox, Ali Abdulnabi Mohamed and Sobia Asad Zuberi. Many thanks are also due to Sumaya Hashim and Julie Sprakel from Communications who organized much of the event. I would also like to thank the judges: Prof Randah Hamedah from AGU, Prof Martin Corbally and Dr Fiza Rashid-Doubell.

Two sets of awards are given for undergraduate research on Research Day: awards for the top oral research presentations and awards for top poster research presentations. We would like to congratulate those students who receive these awards. Equally commendable is participation in Research Day as it indicates that students have gone beyond normal expectations in carrying out research while at the university.

Research output in Bahrain is in its infancy compared with many places in the world. One of the objectives of RCSI Bahrain is to contribute towards changing this situation. The development of an increased research capacity amongst healthcare workers can only contribute towards this. We look forward to increased research amongst faculty and students at RCSI Bahrain and see collaborations with other universities in Bahrain, the GCC and internationally as a means towards this end.

Professor David Whitford
Chairman, RCSI Bahrain Research Committee
## Research Day Programme
**Tuesday 13\textsuperscript{th} December 2011, Kevin O’Malley Lecture Theatre**

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.30pm</td>
<td><strong>Welcome</strong></td>
<td><strong>Welcome</strong></td>
</tr>
<tr>
<td>4.35-4.45</td>
<td>Marwa Muneer Al Baharna</td>
<td>Pediatric electroencephalography: Parents' knowledge and experience</td>
</tr>
<tr>
<td>4.45-4.55</td>
<td>Mohammed Khalid Faqi</td>
<td>Is there altered somatosensory processing in response to mechanical noxious stimulation in EAE: An animal model of Multiple Sclerosis</td>
</tr>
<tr>
<td>4.55-5.05</td>
<td>Fatima Ibrahim Halilu</td>
<td>The Rise in Atypical Squamous cells of Undetermined Significance</td>
</tr>
<tr>
<td>5.05-5.15</td>
<td>Mohamad Kayali, Yahya Al-Watari</td>
<td>Synthesis of a dual functional platinum anticancer drug</td>
</tr>
<tr>
<td>5.25-5.35</td>
<td>Saif al Borgan, Zaid Marhoon</td>
<td>Attitudes, beliefs and perceptions towards Water-pipe (Shisha) among Water-pipe smokers in Bahrain</td>
</tr>
<tr>
<td>5.35-5.55</td>
<td></td>
<td>Poster session, Coffee Break</td>
</tr>
<tr>
<td>5.55-6.05</td>
<td>Buthaina Hameed Al Asfoor</td>
<td>Daily Life Experience of Institutionalized Elderly People</td>
</tr>
<tr>
<td>6.05-6.15</td>
<td>Shafeeqa Hasan Yousif</td>
<td>Knowledge and Attitudes of Nurses in Bahrain Regarding Pain Management in Adult Patients with SCD</td>
</tr>
<tr>
<td>6.15-6.25</td>
<td>Orla Merrigan</td>
<td>Are there any Cultural Barriers to Automated External Defibrillator use in Middle East Countries</td>
</tr>
<tr>
<td>6.25-6.35</td>
<td>Tara Conboy</td>
<td>Effect of a Nurse Specialist Coordinated Heart Failure Clinic on Patient Adherence to Medication</td>
</tr>
<tr>
<td>6.35-7.00</td>
<td></td>
<td>Judges feedback and presentation of awards</td>
</tr>
<tr>
<td>7.00pm</td>
<td></td>
<td>Refreshments</td>
</tr>
</tbody>
</table>
Posters
Undergraduate

Emily Gammoh
Is the Phase I Clinical Trial Design “Passé” For Cancer Vaccine Development?

Hussam Al-Anjawi, Marwa Muneer Al Baharna
Impact of clinical inertia on cardiovascular risk factors in patients with diabetes: a cross-sectional study

Alaa Eddin Obeid & Yahya Ahmed Alwatari
Nonlinear refractive index measurements of Bovine Serum Albumin conjugated to Bradford Reagent

Marwa Muneer Al Baharna
Formulation and Evaluation of Biodegradable Nanoparticles for Controlled and Targeted Delivery to the CNS.

Ali Abdulnabi Mohamed
Diabetes Mellitus among Bahrainis with Sickle Cell Disease

Nourgeihan Hassan Hashem, Sakenah Ali Al-Saiqal
Quality of Life of Bahraini women diagnosed with Breast Cancer

Musttafa Al-Ani
Current Practice Improvement in Prevention of Catheter Associated Urinary Tract Infections in Adult Patients in Acute Medical Care at a Military Hospital

Mustafa AbidAlhassan
Comparative analysis between Levofloxacin and Ciprofloxacin to assess their antimicrobial

Yasin Parpia
Inhibition of platelet aggregation via the FcgR11a Receptor using clinically approved drugs

Hatem Ghorab
HIF-1α in Regulation of Intestinal Epithelial Secretion

Maryam Fareed Ashoor
Antibacterial activity of metal 8-hydroxyquinoline complexes against gram negative and positive bacteria

Amal Hijab
Relation between serum Resistin and type 2 Diabetes Mellitus in a Bahraini population

Ankit Kapur
Perceiving Facial Deformity: In the Eye of the Beholder
Posters
Postgraduate

Luke Feeney  
Developing an integrated framework for healthcare risk, incident & audit management

Fatima Al Hannan  
The Influence of SNPs 45T>G and 276G>T at the Adiponectin Gene Locus on Serum Adiponectin Levels, Type 2 Diabetes Mellitus and Related Metabolic Parameters in the Bahraini Population

Muna Mohamed Bucheery  
Identifying Burnout State Level and Contributing Factors among Oncology Nurses Caring for Cancer Patients in Bahrain

Ghufran Ahmed Jassim  
Strategies for managing hot flashes, a review

Della Mathew  
Attitudes of registered nurses and physicians regarding advanced practice nursing in intensive care

Hameed Khedra  
The phemonology of physiology: Obesity perspective
RCSI BAHRAIN RESEARCH DAY
ABSTRACTS
Undergraduate Oral Presentation

Research Abstract

Name: Marwa Muneer Al Baharna

Title: PEDIATRIC ELECTROENCEPHALOGRAPHY: PARENTS' KNOWLEDGE AND EXPERIENCE

Names and affiliations of authors: AlBaharna MM (Medical Student of RCSI Bahrain), Shivji ZM, Al Osaimi AM, Bin Sadiq BM, Jan MM (Department of Neurosciences, King Faisal Specialist Hospital and Research Centre, Jeddah, Saudi Arabia)

Abstract Text:
Background: Parent's understanding, support, and cooperation are essential for a successful pediatric electroencephalogram (EEG). (1) Arhan et al. reported that EEGs are misunderstood by mothers, which was found to be related to their education and socioeconomic status. An information leaflet was suggested as an efficient method of improving knowledge of the procedure. (2) We aim to study parent's perceptions and knowledge of the EEG procedure before the study and examine their impressions afterward.

Methods: Consecutive parents of children coming for outpatient EEG at King Faisal Specialist Hospital & Research centre - Jeddah were included prospectively. A 21-item questionnaire was designed to examine their demographics, knowledge, cooperation, and experience during the EEG procedure.

Results: One hundred questionnaires were completed during the study period. Only 24% of the families reported receiving prior information about the EEG procedure and only 16% felt very well informed. Up to 11% of the parents had misconceptions about the EEG procedure including that it involves needles, electrical shocks, pain, or intravenous medications. After the EEG procedure, 71% of parents found their experience better or much better than they expected. Those who were informed were more likely to have an as expected experience (34% vs. 9%, p=0.004). The level of EEG information did not correlate with the parent's or child's behavior during the procedure.

Conclusions: Most parents are poorly informed about the EEG procedure, which affects their expectation and EEG experience. Few parents have significant apprehensions and misconceptions, however, most found the overall EEG experience better than they expected.

References:
Undergraduate Oral Presentation

Research Abstract

Name: Mohammed Khalid Faqi

Title: IS THERE ALTERED SOMATOSENSORY PROCESSING IN RESPONSE TO MECHANICAL NOXIOUS STIMULATION IN EAE: AN ANIMAL MODEL OF MULTIPLE SCLEROSIS

Names and affiliations of authors: Mohammed Khalid Faqi (Royal College of Surgeon's in Ireland - Medical University of Bahrain) - (Presenting), Peter Shortland (Centre of Neuroscience and Trauma, Bart's and the London School of Medicine and Dentistry), Sarah Al Izki (Centre of Neuroscience and Trauma, Bart's and the London School of Medicine and Dentistry).

Abstract Text:

Pain is an important symptom in Multiple Sclerosis. Recent studies demonstrated the expression of phosphorylated ERK (pERK) in the dorsal horn neurons of EAE rats in response to capsaicin inducing pain hypersensitivity (Obata and Noguchi, 2004). It is believed that central sensitization of postsynaptic neurons plays an important role in the mechanism of this pain hypersensitivity (Ji et al, 1999). Therefore, in EAE mice, pERK induction could possibly be used as an index of nociceptive activation.

The aim of this pilot study is to investigate the nociceptive activation (pERK induction) in the dorsal horn neurons of EAE ABH Biozzi mice in response to mechanical noxious stimulation by quantitatively analyzing the number of pERK positive spinal neurons in the superficial dorsal horn, which could play an important role in the abnormal pain sensations through altering the somatosensory processing of noxious stimulation. Using immunofluorescent techniques, the expression of nociceptive markers (CGRP and IB4) will be qualitatively analyzed.

Results showed a significant statistical (95% CI, p<0.05) increase in pERK positive dorsal horn neurons of EAE mice confirming the role of pERK in somatosensory processing and nociception. This suggests the association of pERK with central sensitization of pain. The presence of pERK positive astrocytes in stimulated EAE mice elucidated the association of astrocytes and pain. Alterations in the expression of nociceptive markers in EAE mice correlate to changes seen previously in neuropathic pain conditions. These results will shed further light on the contribution of primary afferents to alter somatosensory processing in multiple sclerosis and possibly the mechanisms underlying persistent pain.

References:


Undergraduate Oral Presentation

Research Abstract

Name: Fatima Ibrahim Halilu

Title: THE RISE IN ATYPICAL SQUAMOUS CELLS OF UNDETERMINED SIGNIFICANCE

Names and affiliations of authors: Fatima Halilu1, Etaoin Kent2, Paul Byrne2
1 Royal College of Surgeons in Ireland, Medical University of Bahrain
2 Royal College of Surgeons in Ireland, Rotunda Hospital, Dublin

Abstract Text:
BACKGROUND: In Ireland; cervical cancer is responsible for about 1.8% of cancer deaths with approximately 180 new cases diagnosed each year.1 This particular type of cancer demonstrates a progression from premalignant Cervical Intraepithelial Neoplasia (CIN) to invasive carcinoma. Cervical cancer screening employs the use of Pap smears to detect premalignant cervical lesion, provide colposcopic assessment and undertake treatment for high grade dysplastic lesions.

In Ireland, The National Cervical Screening Programme (NCSP) was established in August 2009. Since its implementation the sole provider of cytology services has been Quest Inc. and all cervical smears are reported using the Bethesda system. Prior to this, smears were reported using the British Society of Clinical Cytology (BSCC) classification system.

OBJECTIVE: To determine if implementation of the Bethesda System of classification of cervical smear abnormalities has led to an increase in the proportion of colposcopies carried for borderline lesions/Atypical Squamous Cells of Undetermined Significance (ASCUS).

METHOD: A retrospective review comparing 300 consecutive BSCC referrals and 300 consecutive Bethesda referrals was undertaken at the Rotunda Colposcopy Clinic.

RESULTS: Under the BSCC system 14% (n=42) of the referrals were borderline squamous and this increased to 31.3% (n=94) ASCUS under the Bethesda system. This corresponds to a 17.3% increase (P< 0.0001).

CONCLUSION: ASCUS smears, which have only a 0.25% risk of progression to invasive cancer, account for a large and increasing proportion of the workload of the colposcopy clinic. This trend has the potential to prolong colposcopy waiting lists with significant implications for patients with high grade lesions.

References:

Undergraduate Oral Presentation

Research Abstract

Name: Mohamad Kayali and Yahya Al-Watari

Title: SYNTHESIS OF A DUAL FUNCTIONAL PLATINUM ANTICANCER DRUG

Names and affiliations of authors: Mohamad Kayali, JC1, RCSI Bahrain; Yahya Al-Watari, JC3, RCSI Bahrain; Ayman Saaed, RCSI Dublin; Celine Marmion, RCSI Dublin; Declan Gaynor, RCSI Bahrain.

Abstract Text:
Histone acetyl transferases (HATs) and Histone deacetylases (HDACs) are two enzymes involved in gene regulation, by modification of histones. Inhibition of HATs and HDACs can cause significant changes in transcription processes in the cell and has been shown to cause cell cycle arrest, differentiation and apoptosis in tumour cells. Pt based drugs act as anti-cancer agents by binding to DNA, preventing transcription and inducing apoptosis. Recently a bifunctional anti-cancer drug was synthesised by combining Pt(II) and a derivative of suberoylanilide hydroxamic acid (SAHA), a HDAC inhibitor. This drug exhibited cytotoxicity towards ovarian cancer similar to cisplatin and had lower toxicity towards normal dermal cells[1].

Our group are currently undertaking the first synthesis of a Pt(IV) benzamide derived HDAC inhibitor complex. The resulting complex will be tested for DNA binding activity, HDAC inhibitory activity and cytotoxicity against various tumor cell lines in due course. The rationale behind the proposed drug design is described and preliminary results are outlined (with a non-chemistry specialist audience in mind).

References:
Undergraduate Oral Presentation

Research Abstract

Name: Marwa Muneer Al Baharna

Title: CLINICAL AUDIT OF DIABETES CARE IN THE BAHRAIN DEFENCE FORCE DIABETES CLINIC

Names and affiliations of authors: Al Baharna MM (Medical Student), Whitford DL (MD MB BS).
Department of Family & Community Medicine, Royal College of Surgeons in Ireland – Medical University of Bahrain

Abstract Text:
Introduction: Diabetes Mellitus is becoming increasingly prevalent in Bahrain; ranked as the fifth highest prevalence in the world.(1) Clinical audits of diabetes care in primary care settings show underperformance compared to international standards and audits (2); however, no similar studies have been conducted at secondary care settings. This study aimed to evaluate the quality of diabetes care in the diabetes clinic of the BDF hospital.

Methods: Clinical audit was done on a random sample of 287 diabetic patients attending the diabetes clinic at the BDF hospital (3500). Manual and electronic records were reviewed for key parameters over 15 months including demographics, risk factors, complication screening and medications. Data were analysed using SPSS 17. The study was approved by the BDF hospital ethics committee.

Results: 47% of patients were males, mean age was 54 years with mean age at diagnosis 43 years. 5% were type 1 diabetics. Measured processes including HbA1c, blood pressure, lipids, creatinine and weight were recorded in over 90%. However, other risk factors were less recorded including smoking (8%), alcohol intake (2%) and body mass index (19%). Complication screening was also unsatisfactory; eye screening (42%), foot inspection (22%) and microalbuminuria (23%). Diabetic complications were high as well as hypertension (71%) and hyperlipidemia (69%).

Conclusions: Process measures recording was high, however, routine screening for diabetic complications was poor. Potential areas for improving the quality of care include introducing electronic patient registries, multidisciplinary team, involving nurse practitioners and clinical pharmacists for more holistic approach to the management of diabetes.(3)

References:
Undergraduate Oral Presentation

Research Abstract

Name: Saif Al Borgan , Zaid Marhoon

Title: ATTITUDES, BELIEFS AND PERCEPTIONS TOWARDS WATER-PIPE (SHISHA) AMONG WATER-PIPE SMOKERS IN BAHRAIN

Names and affiliations of authors: Saif Al Borgan (1) , Zaid Marhoon (2), Professor David Whitford (3)
(1) Faculty of medicine, RCSI Bahrain. e-mail: smb090434@rcsi-mub.com
(2) Faculty of medicine, RCSI Bahrain. e-mail:zam080148@rcsi-mub.com
(3) Professor of Family & Community Medicine / Chairman, Research Committee, Royal College of Surgeons in Ireland-Medical University of Bahrain. e-mail:dwhitford@rcsi-mub.com

Abstract Text:
Objectives: With rising prevalence of water-pipe smokers worldwide, this survey intended to investigate water-pipe smokers’ knowledge, attitudes and social determinants in the kingdom of Bahrain.

Methodology: A cross sectional survey was conducted among participants aged 18 and above using an anonymous, self-administered questionnaire conducted in a random sample of 20 café’s that serve water pipe.

Results: Our sample of 400 WP smokers, of which 84.1% are Bahraini and 70.7% with an educational level of a university degree revealed the mean age of water pipe smokers to be 28.9 with an average WP-smoking initiation age of 20.3 years. Those who smoke water pipe daily formed the majority of the sample (61.4%) with a mean smoking time of 2.6 hours/day. Concerning daily WP smokers, only 25.3% perceived shisha to have higher health damage relative to cigarettes,72.3% of them stated they can quite smoking at any time. Boredom and unavailability of activities was the most common response to reasons for WP smoking uptake, followed by socializing and availability of shisha. Those with an interest to quit water pipe smoking made up 39.8%, of which 83.7% stated health concerns as a primary cause for interest in quitting. Cross parameter comparison of statistical significance (P <0.05) revealed that a smaller proportion of those with a high educational level (university and above) smoke daily, compared to those with a lower educational status. Older participants showed a higher tendency to smoke on daily basis; this corresponds to a reported lower perceived harm from water-pipe smoking. However, they exhibited a higher interest in quitting both water-pipe and cigarette smoking.

Conclusion: A large portion of the population, especially within daily WP smokers, still deems WP a less harmful method of tobacco use while showing an interest to quit. Social interventions and media campaigns need to be planned to increase water pipe smoking awareness.

References:
Undergraduate
Oral Presentation

Research Abstract

Name: Buthaina Hameed Al Asfoor

Title: DAILY LIFE EXPERIENCE OF INSTITUTIONALIZED ELDERLY PEOPLE

Names and affiliations of authors: Buthaina Hameed Hassan Al Asfoor, RN,BSc., MSc.
Nursing Supervisor/ Psychiatric Hospital/ Kingdom of Bahrain

Abstract Text:
There is a continuous increase in the number of elderly people moving in to residential care facility in the Kingdom of Bahrain. Admission in to the residential facility perceived in Bahrain society as stigma, rejection for elders by their family members and a violation to Bahrain family values. Many adverse effects of institutionalizing elderly people were reported in literatures. It is therefore important that elders' admission experience be studied, so that nurses can generate appropriate interventions to smooth the transition in to the residential facility. This study aimed to explore the lived experience of institutionalized elderly people. A qualitative, phenomenological approach was used. The study was carried in one of the elderly residential health care institutions in the kingdom of Bahrain. The sample composed nine participants, were interviewed and audio recorded. The five themes emerged from the data analysis included: no choice, no freedom, killing routine, home of negligence, and elderly refuge. The conclusion involved implication for clinical practice, education and management. Implications for clinical practice were formulating comprehensive elders' assessment before and throughout their residency, planning an appropriate coping strategy, promote nurse-elder effective communication and nurses considering ethical issues. The implications for education involved education of both health care providers and elders regarding the transition process. The implications for management were maintaining gradual relocation process, maintaining social connection, maintaining elder's autonomy and maintaining sufficient activities. Future research in the same area was recommended to study temporary residential experience, involve health care providers and significant others and to consider variables like elders' living arrangement before relocation.

References:
Undergraduate
Oral Presentation

Research Abstract

Name: Shafeeqa Hasan Yousif

Title: KNOWLEDGE AND ATTITUDES OF NURSES IN BAHRAIN REGARDING PAIN MANAGEMENT IN ADULT PATIENTS WITH SCD

Names and affiliations of authors: Dr. Hussain Nasaif

Abstract Text:
Background: Unmanaged pain is a widespread problem that many SCD patients face on a daily basis. SCD pain can be either acute or chronic. Unmanaged pain increased the morbidity and mortality rate in SCD patients; moreover, it has devastating effects on the quality of life.

Aim and objective: to assess the level of knowledge and attitudes of nursing staff working in sickle cell disease units in Kingdom of Bahrain regarding pain management for adult SCD patients.

Methodology/ Design: A positivist, quantitative study approach was used.

Method: The sample in this study consisted of 30 staff nurses working in adult SCD wards. Staff nurses asked to complete the demographic data section and the modified Nurses’ Knowledge and Attitude Survey Regarding Pain management tool.

Results: The results of the study showed that a mean score of 15.8 ± 3 (47.8%) out of 33 was achieved by staff nurses regarding SCD pain management. The data showed that staff nurses demonstrated significant knowledge deficit and negative attitudes regarding pain management. In addition, no significant relationship was found between the demographic data (age, nationality, level of education, year of working experience, attendance of pain management course), of staff nurses and their knowledge and attitudes of SCD pain management.

Conclusion: The results were seen to be consistent with previous studies that show lack of knowledge and negative attitudes regarding assessment and management of pain.

Implications for practice: The findings of this study suggest the need for the development of specific strategies to effectively educate the staff nurses about pain assessment and management, as well as integrate pain management as a major component of the in-service programmes and undergraduate-nursing curriculum to improve patient outcomes.

References:
Staff
Oral Presentation

Research Abstract

Name: Orla Merrigan

Title: ARE THERE ANY CULTURAL BARRIERS TO AUTOMATED EXTERNAL DEFIBRILLATOR USE IN MIDDLE EAST COUNTRIES

Names and affiliations of authors: Orla Merrigan, Nursing Lecturer RCSI Bahrain

Abstract Text:
Background: To date no study has explored the role of cultural barriers to use of Automated External Defibrillator (AED) use in Arab Gulf countries. This study examines the role of ethnicity on acceptability ratings for resuscitation and use of an AED.

Methods: Male & female respondents (n=345) at an exhibition completed a questionnaire assessing the knowledge & attitudes towards the use of an AED in sudden cardiac arrest situations in a public setting. Participants were provided with one of twelve different photographed vignette scenarios of a victim in cardiac arrest with a rescuer of three different ethnic groups (European, Indian Sub-Continent & Arab). Participants then completed acceptability ratings in relation to Cardiopulmonary resuscitation (CPR) & AED use.

Results: Significant differences were found on acceptability ratings of questions in relation to CPR and AED use when the victim was female. Specifically, participants were significantly more likely to express low acceptability ratings for male rescuer when the male was from the Indian Sub-continent. No differences were found between scores in relation to a European male rescuer & Arab male rescuer.

Conclusion: The study indicated a lack of knowledge & awareness in the Bahraini population in relation to the correct function of an AED and when it should be used. Specific ethnic grouping of the Indian sub-continent appears to be a barrier to both AED use & CPR when the victim is an Arab female. This has implications for the delivery & training in AED usage & possibly the selection of those who should be trained.

Ethical approval granted from the Ethics Committee at RCSI Bahrain

References:
Postgraduate
Oral Presentation

Research Abstract

Name: Tara Conboy

Title: EFFECT OF A NURSE SPECIALIST COordinated HEART FAILURE CLINIC ON PATIENT ADHERENCE TO MEDICATION

Names and affiliations of authors: Tara Conboy

Abstract Text:
Medication adherence is important in achieving optimal outcomes in heart failure. Unfortunately, both patient and prescriber adherence to evidence based medication remains low. Nurse coordinated heart failure clinics are common in the West with documented efficacy in improving adherence. Such programmes in the Middle East are rare and their outcomes are unknown.

To address this deficiency, a quasi-experimental pretest, posttest study was conducted in Saudi Arabia to evaluate the effectiveness of a Nurse Specialist coordinated heart failure clinic on patient adherence to guideline recommended medication for heart failure. Of the 57 consenting, consecutive participants with systolic heart failure enrolled in the study, 55 completed follow-up. Medication adherence was measured at enrolment and following 3 months of Nurse Specialist management in a heart failure out-patient clinic. A validated Arabic version of the 9-item Morisky Medication Adherence Scale and pharmacy refill were employed to evaluate patient adherence.

Analysis was performed using SPSS Advanced Statistics for Windows, version 18. Clinically and statistically significant improvement in medication adherence was observed at 3 month follow-up (p<0.0001). The Arabic version of the Morisky Medication Adherence Scale was significantly associated with pharmacy refill, thus providing further validation of this indirect adherence measure. New York Heart Association classification, left ventricular ejection fraction and quality of life also improved (p<0.0001). Proportion of participants on target medication doses was higher at 3 month follow-up (p<0.0001).

This study strongly supports the hypothesis that a Nurse Specialist coordinated clinic for patients with heart failure in Saudi Arabia improves medication adherence.

References:
**Undergraduate Poster Presentation**

**Research Abstract**

**Name:** Emily Gammoh

**Title:** IS THE PHASE I CLINICAL TRIAL DESIGN “PASSÉ” FOR CANCER VACCINE DEVELOPMENT?

**Names and affiliations of authors:** Osama Rahma, Emily Gammoh, Richard Simon and Samir Khleif
Vaccine Branch, National Cancer Institute, Bethesda, MD

**Abstract Text:**
The phase I clinical trial design may not apply to cancer vaccines given their unique mechanism of action and the profile of their clinical outcome. To address this question we analyzed the toxicity profile in 241 therapeutic cancer vaccine phase 1, phase1/2, and pilot clinical trials conducted between 1990 and 2011. In trials that used dose escalation design we addressed the relationship between vaccine dose and toxicity and the ability of dose escalation to determine biologically active dose (BAD). Amongst 241 trials 62 grade 3/4 vaccine related systemic toxicities were reported in 4,952 treated patients (1.25%). The number of grade 3/4 toxicities was also analyzed in relation to the number of the administered vaccines in 206 trials out of the 241 trials. Based on this analysis, 4,024 patients received 21,835 vaccines and experienced 43 grade 3/4 systemic vaccine related toxicities (0.2% toxicity rate). In order to study the dose-toxicity relationship, we analyzed all trials that used dose escalation design (127/241 trials). Twenty-two of 127 dose escalating trials reported 40 grade 3/4 systemic vaccine related toxicities of which only 10 toxicities occurred at the highest dose level. Interestingly, only 3 trials out of 127 dose escalating trials reported DLT. Furthermore, we analyzed the dose-immune response relationship in 106 trials that included immune response as a secondary endpoint out of the 127 dose escalating trials. We also included 10 additional trials designed to determine BAD by immune response as a primary endpoint. Only 2 trials showed a statistically significant dose immune response correlation. Our analysis suggests that potential serious toxicity in vaccines therapy is extremely low and the toxicity or biologic activity do not correlate with dose levels based on the traditional dose escalation design.

**References:**
Undergraduate Poster Presentation

Research Abstract

Name: Hussam Al-Anjawi

Title: IMPACT OF CLINICAL INERTIA ON CARDIOVASCULAR RISK FACTORS IN PATIENTS WITH DIABETES: A CROSS SECTIONAL STUDY

Names and affiliations of authors: Prof. David L Whitford, Hussam A Al-Anjawi*, Marwa M Al-Baharna* * presenting authors

Abstract Text:

Background: Clinical inertia (CI) is the failure of health care providers to initiate or intensify therapy when indicated[1]. It is claimed to be a barrier to the effective management of numerous cardiovascular risk factors[2,3,4,5]. We set out to establish prevalence and variation in clinical inertia between hyperglycaemia, hypertension and dyslipidaemia in patients with T2DM, and the effect of CI on outcomes.

Methods: Medical records of a random sample of patients (n=334) attending BDF diabetes clinic. Changes in therapy were recorded for each attendance and treatment intensity score[3] calculated for each variable for 30 month period.

Results: HbA1c: Mean 8.1%, mean reduction 0.14%. No increase in therapy made in 25% of consultations with raised HbA1c. Treatment intensification (TI) score =0.17

LDL: Mean 2.73mmol/l; mean reduction 0.1mmol/l. No increase in therapy made in 76% of consultations with raised LDL. TI score =0.45

systolic BP: Mean 145mmHg. No increase in therapy made in 68% of consultations with raised BP. TI score =0.49

Conclusion: CI is not associated with poorer risk factor levels when measured over a 30 month period but leads to worse outcomes when measured per consultation. Risk factor outcomes appear to regress to the mean over time. Lack of treatment intensification leads to greater deterioration in outcomes in patients who are at target than those who are above target. This may be related to relaxation of behaviours by patients or physicians when at or below targets. Diabetes care is complex and overdue emphasis on CI may not yield improved outcomes. A more holistic approach is needed.

References:
Undergraduate Poster Presentation

Research Abstract

Name: Alaa Eddin Obeid & Yahya Ahmed AlWatari

Title: NONLINEAR REFRACTIVE INDEX MEASUREMENTS OF BOVINE SERUM ALBUMIN CONJUGATED TO BRADFORD REAGENT

Names and affiliations of authors: Alaa Eddin Obeid*, Yahya Ahmed Alwatari*, Kevin G Culligan PhD, Fryad Z. Henari PhD, RCSI Bahrain Medical Student*, RCSI Bahrain

Abstract Text:
The Z-scan method is commonly used for measuring the non-linear optical properties of materials such as non-linear absorption and non-linear refraction. This study presents the results from investigation of the non-linear refractive index of Bradford reagent conjugated to Bovine Serum Albumin (BSA), the major drug-binding protein in blood, using an Argon ion laser at a wavelength of 514 nm. The non-linear refractive index of BSA bound to the dye was found to be linearly dependent on the concentration of BSA. Thus by calculating the non-linear refractive index of the sample, the concentration of albumin in the sample may be deduced. Therefore, it may be possible using this method to rapidly detect abnormalities in serum protein levels, such as hypoalbuminemia.

References:
Undergraduate Poster Presentation

Research Abstract

Name: Marwa Muneer Al Baharna

Title: FORMULATION AND EVALUATION OF BIODEGRADABLE NANOPARTICLES FOR CONTROLLED AND TARGETED DELIVERY TO THE CNS

Names and affiliations of authors: Al Baharna MM (1), Kirby B, Walsh J, Ramtoola Z (2). (1) School of Medicine, RCSI-Medical University of Bahrain. (2) School of Pharmacy, Royal College of Surgeons in Ireland, Dublin 2, Ireland

Abstract Text:
Introduction: The effectiveness of pharmacological therapy for neurological disorders has been restricted by the inability to cross the blood brain barrier (BBB). Polymeric Nanoparticles (NPs) offer a promising non-invasive method of delivery to the central nervous system (CNS), achieving a targeted and prolonged drug effect.(1,2) In this study, we examined and compared the potential of non-pegylated and pegylated PLGA nanoparticles to deliver loperamide, an opioid agonist which does not normally cross the BBB, to the CNS of mice by intranasal administration.

Methods: Loperamide loaded PLGA (RG503H and RG504H) and PLGA-PEG nanoparticles were formulated using an emulsion and solvent evaporation technique.(3) Nanoparticles were characterised and in vitro drug release measured. Following characterisation, nanoparticles were suspended in saline and administered, intranasally, to anesthetized mice. CNS delivery was evaluated in terms of nociceptive threshold using the hot plate test. Experiments were approved by RCSI's ethics committee.

Results: Nanoparticles formulated were spherical and were consistent in size (200-400nm) irrespective of polymer compositions, with an average drug loading efficiency of 83-88%. Loperamide release from the nanoparticles was similar across all nanoparticles. Intranasal administration showed that NPs formulated using t-PEGylated PLGA (10%) were able to cross the BBB and release loperamide as shown by an increased pain threshold in the treated mice.

Conclusion: Taken together this data shows that PLGA-PEG nanoparticles are promising carriers for drug delivery across the blood brain barrier.

References:
Undergraduate Poster Presentation

Research Abstract

Name: Ali Abdulnabi Mohamed

Title: DIABETES MELLITUS AMONG BAHRAINIS WITH SICKLE CELL DISEASE

Names and affiliations of authors: Mohamed AA (Senior Medical Student, RCSI Bahrain); Whitford DL (Professor of Family & Community Medicine, RCSI Bahrain); Al Qurashi F (Consultant Hematologist/Oncologist, SMC Bahrain).

Abstract Text:
Bahrain has a relatively high prevalence of both Diabetes Mellitus (DM) and Sickle Cell Disease (SCD); 15.4% (1) and 1.31% (2). The aim of this study is to establish the prevalence of DM among Bahrainis with SCD; to compare it with the prevalence of DM in the general population of Bahrain and in SCD patients of other countries; and to discuss the potential implications of the results.

A cross-sectional prevalence study of 376 Bahraini SCD patients admitted to Salmaniya Medical Complex (SMC) or to Ebrahim Khalil Kanoo Health Centre (EKKHC) for any reason from 2003 to 2010. Laboratory data obtained include recent and abnormal values of FBS, RBS, GTT, HbA1c, HbS, HbF and Lipid profile. Age, gender and number of admissions were also noted. Diabetic status was determined based on available blood sugar measurement data, and patients with less than enough data to determine their diabetic status were excluded. The mean age was 33.5 ± 11.2 years (range: 18-79 years) with 52% being males. 85% (n=320) have no laboratory evidence of DM. The total prevalence of DM in the sample was 6.4% (n= 24). 2.9% (n= 11) have been previously diagnosed with DM, while 3.5% (n= 13) have DM, based on their blood sugar criteria, but have not yet been diagnosed. For other diabetic conditions, IFG patients were 6.9% (n= 26) of the sample, while IGT patients were 1.6% (n= 6).

The prevalence of DM among Bahrainis with SCD is 6.4% which is relatively high compared to alike previous studies in different settings and populations. This finding necessitates firm screening and management strategies to early detect and control DM in Bahraini SCD patients in order to prevent the disease-related complications.

References:
Undergraduate Poster Presentation

Research Abstract

Name: Nourgeihan Hassan Hashem, Sakenah Ali Al-Saiqal

Title: QUALITY OF LIFE OF BAHRAINI WOMEN DIAGNOSED WITH BREAST CANCER

Names and affiliations of authors: Hashem Nourgeihan- SC1 RCSI Bahrain, Sakenah Al-Saiqal- SC1 RCSI Bahrain

Abstract Text:
Breast cancer is a major cause of morbidity and mortality. Treatment and management of this disease has improved over time increasing the survival years. This introduces a new element which is the quality of life of those who have survived. This research tries to quantify the quality of life (QoL) of patients as well as identify factors which affect the QoL.

The cross sectional study was conducted at the Oncology Center at Salmaniyah Medical Complex, where patients’ interviews took place. The population consisted of 270 Bahraini women who were diagnosed with breast cancer between 1/1/1999 and 31/12/2009 (1); of these, the data of 100 randomly selected participants was analyzed.

Numerous significant correlations between Quality of life scores and socio-demographic variables were found. Each demographic variable had a different effects on different aspects of QoL. An example is, Global health status and physical function scores proved to be the best in single women and worst in widowed women (P value 0.011, 0.009 respectively). The degree of reported symptoms also correlated with many variables. Moreover, comparisons between two different Socio-demographic factors also reported significant data; for example, married women had a higher role functioning score than divorced women (P 0.049).

Variant significance was found for all variables, except emotional functioning. The protocol for this research was approved by the ethics committee in Ministry of Health and was submitted to the ethics committee in RCSI Bahrain for approval.

References:
1) Jassim Ghuffran, Abstract 2010
Undergraduate Poster Presentation

Research Abstract

Name: Musttafa Al-Ani

Title: CURRENT PRACTICE IMPROVEMENT IN PREVENTION OF CATHETER ASSOCIATED URINARY TRACT INFECTIONS IN ADULT PATIENTS IN ACUTE MEDICAL CARE AT A MILITARY HOSPITAL

Names and affiliations of authors: Al-Ani M(b), Alqahtani M(a).
(a)Department of Medicine - Infectious Disease, Bahrain Defence Forces Hospital and (b)Royal College of Surgeons in Ireland-Medical University of Bahrain.

Abstract Text:

Urinary tract infections were the commonest healthcare-associated infections (HAI) at the Bahrain Defence Forces Hospital (BDFH) for several years. In the 2010 BDFH HAI surveillance report (1), 28.6% of HAI were due to urinary tract infection (UTI), of which, 56% were due to catheters. In the BDFH, CAUTI is defined as a HAI if a patient develops positive urine cultures from 3 days and up to a month after catheter insertion. The aim of this study was to reduce the incidence of UTI due to CAUTI.

A Questionnaire was distributed to all nurses on the acute care medical ward to test their knowledge for the proper protocols involving the use of the Foley's catheter. A reminder system form was created and implemented for all patients that require a Foley's catheter insertion for the April 1, 2011 to September 30, 2011 time period. The form enquired for the Foley's insertion and removal dates in addition to the patient's demographics. A total of 104 reminder forms were distributed.

After the implementing the reminder system, the incidence of HAI UTI has decreased for the same time period* from 28.6% in 2010 to 16.1% in 2011. A total of 15 patient forms were excluded either due to incomplete urine culture data or patient decease. Therefore, among the remaining 89 patients, 67 (76%) patients had their catheter removal date recorded, which was used to calculate an in-situ mean average of 5.7 days.

The reminder system is an effective method for reducing CAUTI.

References:

1. Infection Control Unit-Quality Control Department. Hospital acquired infections surveillance report-2010. Royal Medical Services-Bahrain Defence Forces Hospital.
Undergraduate Poster Presentation

Research Abstract

Name: Mustafa AbidAlhassan

Title: COMPARATIVE ANALYSIS BETWEEN LEVOFLOXACIN AND CIPROFLOXACIN TO ASSESS THEIR ANTIMICROBIAL

Names and affiliations of authors: a Alqahtani M, b AbidAlhassan M.
a Department of Pathology – Microbiology Section, Bahrain Defense Forces Hospital and b Royal College of Surgeons in Ireland-Medical University of Bahrain.

Abstract Text:
Ciprofloxacin is used as the standard antibiotic therapy for treatment of patients with urinary tract infections (UTI) at Bahrain Defense Forces Hospital (BDFH). The purpose of the study was to analyze the antimicrobial sensitivity of Ciprofloxacin compared to Levofloxacin on clinical isolates obtained from patients with UTI at BDFH. The study was based on culture positive urine specimens collected from February 1, to August 31, 2011.

The sensitivity analysis on both antibiotics was done by using a 5 microgram disk diffusion on 452 isolates obtained from the patients. The in-vitro activity of the two fluoroquinolones was evaluated based on the zone of inhibition produced by each antibiotic. An area of inhibition >17mm was considered susceptible to Levofloxacin while an area >21mm was susceptible to Ciprofloxacin.

The results showed that Levofloxacin had an overall better sensitivity response among patients presented with culture positive Enterobacteriaceae (71%) compared to Ciprofloxacin (67%). In addition to that, the culture results showed that the commonest UTI causative organisms in BDFH were E-coli (63.9 %), followed by Klebsiella pneumoniae (17.3%), Proteus species (7.1%) and Pseudomonas aeruginosa (2.7%). There was a significant difference in response to the two fluoroquinolones among the 4 groups of organisms, where Levofloxacin showed statistically significant preference among E-coli and klebsiella pneumonia, while there was no difference in Proteus species and Pseudomonas aeruginosa.

The study showed that Levofloxacin had significantly better disk diffusion sensitivity response than Ciprofloxacin in patients with culture positive Enterobacteriaceae.

References:
Undergraduate Poster Presentation

Research Abstract

Name: Yasin Parpia

Title: INHIBITION OF PLATELET AGGREGATION VIA THE FCGR11A RECEPTOR USING CLINICALLY APPROVED DRUGS

Names and affiliations of authors: Parpia Y, Brennan M, Cox D.

Abstract Text:
This project involves the development of a therapy for Sepsis. Sepsis has a high morbidity and mortality rate due to thrombotic complications associated with the disease. The Fc gamma Receptor Ila (FcγRIIa) has been shown to be involved in thrombus formation stimulated by bacteria. Dr. Brennan’s group have identified six clinically available drugs which inhibit platelet activation via the FcγRIIa receptor. These drugs have been tested at 100uM in platelet adhesion assays to immunoglobulin. This project will characterize these drugs further identifying their IC50 values in this adhesion assay in addition to studying the affects of Prostaglandin and Aspirin on platelet adhesion. Inhibition of the bacterial interaction with platelets will help to stabilise sepsis patients, allowing time for the antibiotics to work. Because these drugs are already clinically approved for other uses, this work could lead to a therapy for sepsis that is rapidly available for use. Platelet adhesion experiments were carried out using varying concentrations of the different compounds. Binding of IgG to the platelets in the presence of the different drugs was measured as absorbance values. The results revealed that Nafarelin has the highest potency (IC50= 9.5uM) and would therefore may be beneficial to administer to septicaemia patients reducing their risk of bacterial induced platelet aggregation.

References:
Undergraduate Poster Presentation

Research Abstract

Name: Hatem Ghorab

Title: HIF-1α IN REGULATION OF INTESTINAL EPITHELIAL SECRETION

Names and affiliations of authors: Ghorab H¹, Ward J², Keely S².
¹RCSI-Bahrain Medical Student
²Department of Molecular Medicine, RCSI, Beaumont Hospital

Text Abstract:
Cl⁻ ion secretion across epithelial cells is the primary driving force of intestinal fluid secretion. Cl⁻ secretion can become dysregulated in a number of pathological states leading to the onset of diarrhoea. Cl⁻ secretion is a highly energy dependent process and requires the availability of O₂ for the generation of cellular ATP. In conditions when O₂ levels are reduced intestinal transport processes are inhibited. Hypoxia inducible factor 1α (HIF-1α) has been well described as the master regulator of cellular responses in hypoxia. We investigated a possible role for HIF-1α in regulating intestinal secretory responses.

Human colonic T₈⁴ cells grown on permeable supports were used as a model of intestinal epithelium, along with cobalt chloride (CoCl₂) to prevent cellular HIF-1α degradation. The voltage clamp technique enabled us to measure chloride secretion and protein expression was measured by western blotting.

CoCl₂ increased expression of HIF-1α protein in T₈⁴ cells in a concentration-dependent manner with a maximal effect occurring at 500 μM. Effects on HIF-1α expression were sustained for up to 24 hrs. Pretreatment of T₈⁴ cells with CoCl₂ inhibited Cl⁻ secretory responses across T₈⁴ cells in a similar pattern to that of HIF-1α expression, with ~ 80% inhibition at a concentration of 500 μM. The effects of CoCl₂ were not due to toxicity confirmed by measurements of transepithelial resistance and LDH release.

Our data suggest an important role for HIF-1α in regulating intestinal epithelial secretions; targeting HIF-1α dependent signaling pathways may prove a useful approach for treating disorders associated with diarrhoea.

References:
Undergraduate Poster Presentation

Research Abstract

Name: Maryam Fareed Ashoor

Title: ANTIBACTERIAL ACTIVITY OF METAL 8-HYDROXYQUINOLINE COMPLEXES AGAINST GRAM NEGATIVE AND POSITIVE BACTERIA

Names and affiliations of authors: Maryam Ashoor, JC1, RCSI Bahrain; Salwa Al-Thawadi, University of Bahrain; Declan Gaynor, RCSI Bahrain.

Abstract Text:
In recent years many quinolone antimicrobial drugs have been shown to have increased antimicrobial activity when complexed to various metal ions [1]. While 8-hydroxyquinoline does not possess the same level of antimicrobial activity as the quinolones, it and its derivatives have been shown to possess antimicrobial activity when present in mixed ligand metal complexes [2,3]. The purpose of this research is to attempt synthesizing a number of different d-block metal ion mixed ligand complexes. 8-hydroxyquinoline, a number of racemic and enantiomerically pure amino acids and Cu(II), Co(II), Ni(II) and Zn(II) were reacted to produce an array of metal complexes that were isolated. The resulting metal complexes were characterized using infrared spectral studies and CHN elemental analysis. The proposed structures based on these results are presented. These complexes were then tested for antimicrobial activity against both gram positive (Staphylococcus aureus) and gram negative bacteria (Salmonella sp. and Escherichia Coli). Preliminary results show greater antibacterial activity for the 8-hydroxyquinoline antibacterial complexes in comparison to the free ligand. Following completion of antibacterial activity studies, DNA binding studies will be undertaken to confirm the antibacterial activity mode of action as intercalation of DNA by the metal complexes.

References:
Undergraduate  
Poster Presentation

Research Abstract

Name: Amal Hijab

Title: RELATION BETWEEN SERUM RESISTIN AND TYPE 2 DIABETES MELLITUS IN A BAHRAINI POPULATION

Names and affiliations of authors: Hijab, A. H.* , AlHannan, F.#, Culligan, K. G.∞
* RCSI Bahrain medical student
# RCSI Bahrain, Lab technician
∞RCSI Bahrain, Lecturer in Pharmacology & Biology

Abstract Text:
Introduction: Resistin is an adipokine secreted by adipose tissue. However, its role in glucose and lipid metabolism remains unclear and its postulated relevance to insulin resistance and the metabolic syndrome in both animal models and humans is controversial. In this study we measured serum resistin levels, related to metabolic parameters in normal and diabetic individuals.

Methods: Serum resistin levels of Bahraini adults with and without Type 2 Diabetes Mellitus (T2DM) were determined. The metabolic parameters of the subjects were measured, including: lipid; glycated hemoglobin Hb A1c; fasting blood glucose FBG; body mass index BMI; and systolic and diastolic blood pressure SBP, DBP. Smoking status was determined.

Results: T2DM patients had significantly higher serum resistin levels than healthy volunteers in the control group (6.9±6.2 ng/ml in patients vs. 4.9 ng/ml in controls; P = 0.022). Serum resistin level was significantly higher in male subjects than in females (8.1 ±7.3 ng/ml; n = 64 vs. 5.9 ± 4.9 ng/ml; P = 0.033) in T2DM patients, but not in healthy controls. On analyzing demographic, clinical and metabolic parameters with resistin levels in all study subjects, resistin showed a weak positive correlation with age; P = 0.018. While in diabetic subjects, serum resistin level did not show significant correlations with any of the clinical and metabolic parameters. In the control group, however, there was only a statistically significant association (negative correlation) between BMI and serum resistin levels P =.037.

Conclusion: We observed higher overall resistin levels in T2DM, particularly in male patients. However, we could not determine a significant correlation of resistin levels with other metabolic and clinical parameters. Further studies are required to elucidate the role resistin and its relation to metabolic syndrome.

References:
Name: Ankit Kapur

Title: PERCEIVING FACIAL DEFORMITY: IN THE EYE OF THE BEHOLDER

Names and affiliations of authors: Kapur, Ankit (Royal College of Surgeons Ireland - Bahrain); Butler, Peter (Royal Free Hospital, London)

Abstract Text:
In an effort to better understand how facial deformities are perceived by third party observers this study explored the visual behaviour of face perception in participants when confronted with images of individuals with facial deformities. Eye tracking equipment was used to determine whether there was a difference in the visual behaviour of participants when perceiving standardized versus disfigured faces; specifically whether the position and extent of the deformed feature affected the normal saccadic pattern of face perception. The study consisted of 157 participants who were shown one of two different slideshows each consisting of 12 colour photographs depicting the face of either standardized controls or patients with mild, moderate or severe facial deformity. Participants were asked to rate the level of facial deformity for each image on a 7-point Likert scale. Significantly, visual behaviour was altered by facial deformity, while participants still maintained a preference for the eyes and mouths; they spent a far greater amount of time on each facial feature which was affected by deformity. The total time required for face perception by participants increased as the level of deformity increased. Overall, male participants took an average of 3 times longer than females in face perception. This study found eye tracking to be a useful tool for assessing the visual behaviour of those perceiving facial deformities and there exists potential for it to be used as a facial deformity assessment tool for patients and doctors.

References:
Yarbus AL (1965) Role of eye movements in the visual process. Moscow: Nauka
**Name:** Luke Feeney  
**Title:** DEVELOPING AN INTEGRATED FRAMEWORK FOR HEALTHCARE RISK, INCIDENT & AUDIT MANAGEMENT  

**Names and affiliations of authors:** Luke Feeney (Primary author)  
Prof. Peter Smith & Dr. Albert Bokma (Supervisors)  

**Abstract Text:**  
Healthcare, in contrast to any other industry, is an emotionally-charged component of world economies and societies; a deep-rooted societal system with an extremely low public tolerance for mistake or error.  
Healthcare does however have a history of improvements through quality, risk & patient safety initiatives. In recent years a number of prominent quality and safety reports have highlighted the importance of developing effective, integrated and aligned quality, risk and patient safety systems which support organisational learning from failure as well as focus on the reduction of preventable patient safety incidents.  
Furthermore, the healthcare literature suggests that the use of quality, risk and safety frameworks and tools are vital in meeting the requirements of "systems-level" strategic focus - the true roots of all effective continuous healthcare quality improvement. Developing such systems and associated competencies to support effective feedback and management are crucial for healthcare organisations to foster continual improvements in quality, reliability and safety across all services.  
Using case study research, with ethical approval from the University of Sunderland & the hospital study site, this project has built on existing healthcare quality and safety system design to develop an integrated framework for the management of healthcare risk, incident and audit which positively impacts on the delivery of high quality and safe healthcare services. By design, the framework supports the systematic identification of healthcare problems and failures and the continuous development of preventive strategies. Such a framework can thus provide secure foundations for healthcare organisations to deliver high quality and safe healthcare services and ensure continuous organisational learning - surely the least that patients expect [250 words].  

Keywords: healthcare, quality, improvement, safety, framework  

**References:**  
RCSI Bahrain Staff
Poster Presentation

Research Abstract

Name: Fatima Al Hannan

Titles: THE INFLUENCE OF SNPS 45T>G AND 276G>T AT THE ADIPONECTIN GENE LOCUS ON SERUM ADIPONECTIN LEVELS, TYPE 2 DIABETES MELLITUS AND RELATED METABOLIC PARAMETERS IN THE BAHRAINI POPULATION

Names and affiliations of authors: Al Hannan F 1, Culligan K 1, O’Farrell P 1, Morgan M 2, Tighe O 2
1 School of Medicine, RCSI Bahrain, 2 Molecular & Cellular Therapeutics, RCSI Dublin

Abstract Text:
Low concentrations of adiponectin, the protein product of the adiponectin gene (ADIPOQ), have been reported to be associated with obesity and insulin resistance (1). Several adiponectin gene polymorphisms have been described, and their association with obesity, type 2 diabetes mellitus (T2DM), and metabolic syndrome, in different populations and sample types, is controversial (2-7). The purpose of the present study was to investigate the association of the two most well-known single nucleotide polymorphisms (SNPs) of ADIPOQ (+45T>G and 276+G-T) with serum adiponectin concentrations, metabolic parameters associated with diabetes, and risk of T2DM in the Bahraini population. We performed a cross-sectional study using a representative sample of 140 unrelated Bahraini patients with T2DM and 66 non-diabetic healthy subjects. The polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method was used to determine the distribution of allele and genotype frequency of the SNP +45T>G polymorphism (exon2) and SNP +276G>T polymorphism (intron 2) in ADIPOQ. Lipid profile was measured by enzymatic methods. An ELISA was used to determine serum adiponectin levels. It was observed that obesity, insulin resistance and T2DM are associated with low serum adiponectin levels. Compared with the control group, the T2DM group exhibited lower adiponectin levels. The G allele and TG/GG genotype of SNP +45T>G occurred more frequently than the common T allele and TT genotype in T2DM patients compared to the controls (P<0.05). Subjects with the GG/TG genotype of SNP +45T>G were associated with lower serum adiponectin levels. There was no statistically significant difference in allele and genotype frequencies of SNP +276G>T comparing control group with T2DM group. No association with metabolic parameters was detected with either of the SNPs. In summary, our results demonstrated that, adiponectin SNP +45T>G, rather than SNP +276G>T is more associated with adiponectin levels. However, we could not confirm an association of these two SNPs with metabolic parameters of the metabolic syndrome.

References:
Royal College of Surgeons in Ireland
Medical University of Bahrain

Postgraduate
Poster Presentation

Research Abstract

Name: Muna Mohamed Bucheery

Title: IDENTIFYING BURNOUT STATE LEVEL AND CONTRIBUTING FACTORS AMONG ONCOLOGY NURSES CARING FOR CANCER PATIENTS IN BAHRAIN

Names and affiliations of authors: Muna Mohamed Bucheery, Oncology Nurse Facilitator, Ministry of Health

Abstract Text:
Aim and objective: To identify (a) whether oncology nurses caring for cancer patients in Bahrain experience burnout and (b) if nurses do experience burnout, hence (c) what factors contributed to the development of burnout. Background: Cancer is tremendously increasing in Bahrain. Burnout has been correlated to prolonged occupational stress and it is high among oncology professionals, therefore they can be seriously affected by psychological illness and burnout. Burnout needs to be considered, in order to enhance staffs’ health, because patient care can be affected. Globally many studies conducted on burnout occurrence among oncology professionals, however not in Bahrain.
Methodology/ Design: A quantitative, positivists, descriptive, non-experimental and cross-sectional approach was used. Method: Purposive sampling has been used, consent was obtained and data collected through a self-administered socio-demographic questionnaire and Maslach Burnout Inventory scale beside a list of contributing factors. Analysis performed using IBM SPSS program.
Findings: General high burnout level found. Younger nurses with limited work experience period suffered higher emotional exhaustion and depersonalization level. Whereas older nurses with long work experience period reported lower personal accomplishment level. Longer work experience and caring for inpatients besides doing shifts duty had apparent impact on raised emotional exhaustion level. Other factors contributed to burnout experience such as workload, shortage of staff, caring for large number and terminal patients, daily exposure to death, etc.
Conclusions: 70.9% of the participants reported high emotional exhaustion, 63.6% high depersonalization and 56.3% moderate personal accomplishment level. The study indicates high burnout exists among oncology nurses. The prevalence of high level of emotional exhaustion and depersonalization in this study found higher than some other studies.

References:
Research Abstract

Name: Ghufran Ahmed Jassim

Title: TITLE STRATEGIES FOR MANAGING HOT FLASHES, A REVIEW

Names and affiliations of authors: Ghufran Ahmed Jassim, Lecturer, Family Medicine, RCSI Bahrain

Abstract Text:
Background: Hot flashes are the most prevalent and most bothersome symptoms of the menopausal transition and the leading cause for seeking medical attention during that period of a woman’s life. This article will shed some light on strategies for managing menopausal hot flashes using an evidence based approach.

Summary: Hormone therapy (HT), at the lowest possible dose for the shortest period of time (preferably ≤5 years), remains the best option for menopausal women with moderate to severe vasomotor symptom. The effectiveness of phytoestrogens (soy), exercise routines, yoga, acupuncture, vitamin E, evening primrose oil, and other herbal preparations has not been established. When HT is refused or contraindicated by a patient’s risk profile, consider antidepressants (selective norepinephrine reuptake inhibitors and selective serotonin reuptake inhibitors), gabapentin, or clonidine.

References:
Postgraduate
Poster Presentation

Research Abstract

Name: Della K. Mathew

Title: ATTITUDES OF REGISTERED NURSES AND PHYSICIANS REGARDING ADVANCED PRACTICE NURSING IN INTENSIVE CARE

Names and affiliations of authors: DELLA MATHEW

Abstract Text:
Advanced practice nursing is a growing global option to meet the demands and to fill the gap in healthcare provision. Integrating advanced practice nursing with intensive care can improve accessibility, quality and cost-effective care based on evidences. Recently nursing and healthcare policy in many countries promoted advanced role of nurse, Nurse Practitioner, but the concept is not yet established and little is reported about healthcare professionals’ attitudes regarding advanced practice nursing in Bahrain.

The study aimed to determine attitude regarding advanced practice nursing in intensive care to explore opportunities for introducing Nurse Practitioner. Quantitative study based on descriptive exploratory design, distributed questionnaire to seventy Registered Nurses and ten Physicians in intensive care in one health board in Bahrain. Ethical approval was obtained from both college and hospital and ethical principles followed in all steps of research.

Overall response rate was 87.5%. The findings in general showed slight ambivalence on agreement regarding advanced practice nursing and little significant attitude differences between attitudes of both professionals. Statistical data analysis described absolutely no disagreement on any Nurse Practitioner roles and definite positive attitude towards education and regulation for the role development. Factors perceived by the participants also include awareness, regulation, multi-disciplinary support and trail role introduction. Future plans include creating a system to introduce Nurse Practitioners and examine the outcomes. The reinforcement is needed from both nursing and healthcare officials in Bahrain to plan together to improve possibility to encourage specialization and advancement in nursing to provide high quality cost effective care.

Key Words: advanced practice nursing, nurse practitioner, intensive care, nursing research, questionnaire.

References:
Postgraduate Poster Presentation

Research Abstract

Name: Hameed Khedra

Title: THE PHEMONOLOGY OF PHYSIOLOGY: OBESITY PERSPECTIVE

Names and affiliations of authors: Hameed Khedra

Abstract Text:
Abstract Objective: Obesity and overweight are serious public health problems and widely spread in our society. This study has been conducted to identify the psychosocial dimensions associated with obesity and ways to enhance the social understanding in the perception of obesity.

Research Methodology: The study included twenty-six participants from wards 42, 43 and 56 of Salmaniya Medical Complex as well as from the community of A’ali, Bouri, and Al – Sehla. Participant's weights were taken and body mass index (BMI) has been calculated and entered in the questionnaires. In addition, participants were interviewed to confirm the questionnaire findings and reveal the intrinsic psychosocial factor influencing obesity.

Results: We have found that our findings go parallel with previous studies done here in Bahrain in that obesity is prevalent in our society. Based on our findings and questionnaire analysis, a recommendation has been developed to help obese clients cope with their psychosocial problems and promote community understanding and awareness towards obesity.

References:
RCSI BAHRAIN PUBLICATION ABSTRACTS
Title: Bridging the Gap - On Easing the Transition from Arab Secondary to Western Third Level Learning.

Author: Aneta Hayes, Caroline Holden-Rachiotis, Brendan Kavanagh, Sameer Otoom

Source: Evaluation and Research in Education 2011, Vol.24, No.2, pp. 105-120

**ABSTRACT:**
Learning and achievement issues among Foundation Year (FY) students at the Royal College of Surgeons (RCSI) Bahrain have been responded to by the Language and Culture Unit to address the educational problems that have arisen as a direct consequence of the differences in skills students have on leaving secondary school and the skills that are required at third level institutions. The findings of the study assess the extent to which an integration of sustainable development into course objectives and learning outcomes takes place and how the content of the course responds to specific students’ needs. The research consists of an in-depth quantitative and qualitative case study that evaluates the extent to which the course enables the transition from a secondary to a third level institution and teaches the students the skills required to ‘survive’ at a Western-type university. In support of our claim, the results from this case study will be presented and implications of more general relevance will be suggested. Our model of academic skills intervention programme can be applied to other higher education institutions where issues of transition from secondary to third level learning may be problematic.
Published Abstracts

<table>
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<tr>
<th>Title</th>
<th>Observations from 1998 – 2006 on the breeding population of Sooty Falcons <em>Falco concolor</em> on the Hawar Islands, Kingdom of Bahrain</th>
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<tr>
<td>Author</td>
<td>KAVANAGH B. &amp; KING H. 2008</td>
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**ABSTRACT:**

The breeding population of Sooty Falcons was observed on the Hawar islands from 1998-2006. The number of breeding pairs and the total productivity of the population were recorded annually. The population declined by 33% during that period, from 15 to 10 breeding pairs. The annual productivity fluctuated between 0.92 and 1.33 chicks per pair, but without any apparent trend. These figures are below the mean recorded in other populations. A recent review of the literature would indicate that the world population of this species has been seriously overestimated and further research is needed as a matter of urgency.
### Published Abstracts

<table>
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<th>Title</th>
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<tr>
<td>Author</td>
<td>KAVANAGH, B</td>
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<tr>
<td>Source</td>
<td>Wildlife Middle East News 2011, 5 (4)</td>
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</table>

**ABSTRACT:**

This article describes the ringing programme currently operating in Bahrain. It highlights the number of species and the total number of birds ringed and discusses some of the findings of the project.
Title: From Prevention to Nursing Home Care: A Comprehensive National Audit of Stroke Care

Author: Frances Horgan Hannah McGee Anne Hickey David L. Whitford Sean Murphy Maeve Royston Seamus Cowman Emer Shelley Ronan M. Conroy Miriam Wiley Desmond O'Neill on behalf of the Irish National Audit of Stroke Care (INASC) Consortium

Source: Cerebrovasc Dis 2011;32:385–392

ABSTRACT:

Background: Many countries are developing national audits of stroke care. However, these typically focus on stroke care from acute event to hospital discharge rather than the full spectrum from prevention to long-term care. We report on a comprehensive national audit of stroke care in the community and hospitals in the Republic of Ireland. The findings provide insights into the wider needs of people with stroke and their families, a basis for developing stroke-appropriate health strategies, and a global model for the evaluation of stroke services.

Methods: Six national surveys were completed: general practitioners (prevention and primary care), hospital organisational and clinical audit of 2,570 consecutive stroke admissions (acute and hospital care), allied health professionals and public health nurses (discharge to community care), nursing homes (needs of patients discharged to long term care), and patient and carers (post-hospital phase of rehabilitation and ongoing care).

Results: The audit identified substantial deficits in a number of areas including primary prevention, emergency assessment/investigation and treatment in hospital, discharge planning, rehabilitation and ongoing secondary prevention, and communication with patients and families. There was a lack of coordination and communication between the acute and community services, with a dearth of therapy services in both home and nursing home settings.

Conclusion: This multi-faceted national stroke audit facilitated multiple perspectives on the continuum of stroke prevention and care. An overall synthesis of surveys supports the development of a multidisciplinary perspective in planning the development of comprehensive stroke services at the national level, and may assist in regional and global development of stroke strategies.
Title: Peer support for patients with type 2 diabetes: cluster randomised controlled trial

Author: Smith SM, Paul G, Kelly A, Whitford DL, O’Shea E, O’Dowd T

Source: BMJ 2011;342:d715

**ABSTRACT:**

Objective To test the effectiveness of peer support for patients with type 2 diabetes.

Design Cluster randomised controlled. Setting 20 general practices in the east of the Republic of Ireland. Participants 395 patients (192 in intervention group, 203 in control group) and 29 peer supporters with type 2 diabetes. Intervention All practices introduced a standardized diabetes care system. The peer support intervention ran over a two year period and contained four elements: the recruitment and training of peer supporters, nine group meetings led by peer supporters in participant’s own general practice, and a retention plan for the peer supporters.

Main outcome measures HbA1c; cholesterol concentration; systolic blood pressure; and wellbeing score.

Results There was no difference between intervention and control patients at baseline. All practices and 85% (337) of patients were followed up. At two year follow-up, there were no significant differences in HbA1c (mean difference −0.08%, 95% confidence interval −0.35% to 0.18%), systolic blood pressure (−3.9mmHg, −8.9 to 1.1mmHg), total cholesterol concentration (−0.03 mmol/L, −0.28 to 0.22 mmol/L), or wellbeing scores (−0.7, −2.3 to 0.8).

While there was a trend towards decreases in the proportion of patients with poorly controlled risk factors at follow-up, particularly for systolic blood pressure (52% (87/166) >130 mm Hg in intervention v 61% (103/169) >130 mm Hg in control), these changes were not significant. The process evaluation indicated that the intervention was generally delivered as intended, though 18% (35) of patients in the intervention group never attended any group meetings.

Conclusions A group based peer support intervention is feasible in general practice settings, but the intervention was not effective when targeted at all patients with type 2 of clinical outcomes, the results do not support the widespread adoption of peer support.
Abstract:

Introduction There have been reports of thalidomide affected people suffering a deterioration in their disability over time. This study assessed changes in disabilities among thalidomide-affected people in the Irish population.

Methods A questionnaire, assessing musculo-skeletal health, quality-of-life, general health and illness intrusiveness was sent to 26 people affected by thalidomide in the Republic of Ireland.

Results Seventeen (65%) responded. Six (35%) respondents were not working as a result of their disability. Eleven (65%) reported a worsening of their disability over time, with nine of them reporting the deterioration as moderate to severe. The impact of this decline was measured by respondents in terms of ability to perform daily tasks, emotional health and finances (due to extra costs related to clothing, transport, housing alterations and heating).

Conclusion There is a need to continually review the physical, psychological and social needs of thalidomide survivors in order to ensure optimum care is made available.
A multidisciplinary primary care team consultation in a socio-economically deprived community: An exploratory randomised controlled trial

Wai-Sun Chan, David L Whitford, Ronan Conroy, David Gibney, Brid Hollywood

BMC Health Services Research 2011, 11:15

ABSTRACT:

Background: Psychosocial problems in socioeconomically deprived communities are not always amenable to traditional medical approaches. Mothers living in these areas are a particularly vulnerable group. The objective of this study was to evaluate the effectiveness of a lengthened multi-disciplinary team consultation in primary care in reducing anxiety and depression in mothers.

Methods: This was a prospective randomised controlled trial of a multidisciplinary team consultation against normal care. 94 mothers were recruited from three general practices from an area of extreme socio-economic deprivation. Mothers randomised into the intervention group attended a multidisciplinary consultation with up to four case-specific health care professionals. Consultations addressed medical, psychological and social problems and lasted up to one hour. Conventional primary care continued to be available to the intervention families. Control group families received normal primary care services. The outcomes measured were anxiety and depression as using the Hospital Anxiety and Depression Scale (HADS), health status using SF36v2, and quality of life using the abbreviated Schedule for the Evaluation of Individual Quality of Life (SEIQoL-DW) at baseline, 6 months and 12 months.

Results: Ordered logistic regression was used to analyse the data. There was no significant difference found between intervention and control groups after 6 months and 12 months in all of the measured outcomes.

Conclusions: The new lengthened multi-disciplinary team consultation did not have any impact on the mental health, general health, and quality of life of mothers after 6 and 12 months. Other methods of primary health care delivery in socio-economically deprived communities need to be evaluated.
Title: Cultural variations in attitudes towards family risk of diabetes
Author: David L. Whitford *, Manal Al-Sabbagh

ABSTRACT:
Aims: To examine differences in attitudes and behaviours towards familial risk of type 2 diabetes in populations in Ireland and Bahrain.
Methods: Cross-sectional ecological study. Questionnaires were developed and administered to patients with diabetes and their first degree relatives in both Bahrain and Ireland.
Data was analysed using non-parametric tests of association.
Results: Responses were compared between 297 patients with diabetes from Ireland and 201 from Bahrain and between 364 relatives of patients with diabetes in Ireland and 244 from Bahrain. Relatives in Bahrain had more knowledge of risk factors for diabetes and an increased perception of the seriousness of diabetes but a more external, chance locus of control and perceived more barriers to changing lifestyles than those in Ireland. There was no difference in perception of personal risk of diabetes.
Conclusions: Knowledge of risk factors and seriousness of diabetes are higher in Bahrain than in Ireland but perception of personal risk of diabetes and intention to adopt risk reducing behaviours are no different. There is a need to develop models of behavioural change that are more relevant to the needs of the Bahraini population in reducing their risk of diabetes.
<table>
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<tr>
<th><strong>Title</strong></th>
<th>The use of complementary and alternative medicine by patients with diabetes mellitus in Bahrain: a cross-sectional study</th>
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<tbody>
<tr>
<td><strong>Author</strong></td>
<td>Abeer J Khalaf and David L Whitford</td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td>BMC Complementary and Alternative Medicine 2010, 10:35</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

Background: CAM use is widespread, especially among patients with diabetes. The Gulf States have a high prevalence of diabetes, alongside a long tradition of CAM use. The aim of this study is to establish the prevalence of CAM use among patients with diabetes mellitus in Bahrain and to examine the characteristics of the CAM users.

Methods: A questionnaire was developed and administered to a convenience sample of patients with diabetes (n = 402) above the age of 20 attending two hospital diabetes clinics. Data were analysed using descriptive statistics and non-parametric tests of association.

Results: 63% of responders utilized CAM within the previous 12 months. CAM users were more likely to be female, to have had diabetes for longer and to have complications of their diabetes. 64% of CAM users stated that they had used CAM for managing their diabetic condition, with 46% of these having used it solely for their diabetes. Respondents using CAM to manage their diabetes were more likely to be male, to be using CAM on a daily basis and to have informed their physician of their CAM use.

Conclusions: There is a high rate of CAM use in patients with diabetes attending two hospital diabetes clinics in Bahrain. There is also a high rate of non-disclosure of CAM use to physicians. There is a continuing need for health professionals to be more aware and better trained in order to inform their decision making and communication related to CAM use.
Title: Health-Care Associated Infection Rates among Adult Patients in Bahrain Military Hospital: A Cross Sectional Survey

Author: Kelechi Austin Oforum and David Leonard Whitford

Source: Bahrain Med Bull 2010; 32(1): 11-14

ABSTRACT:

Background/Objective: Health-care associated infections cause substantial morbidity and mortality with their prevalence varying between countries and hospitals. There are no published studies of health-care associated infections in hospitals in Bahrain and few in general military hospitals.

Setting: Bahrain Defence Force Hospital.

Design: Survey

The aim of this study is to establish the prevalence of health-care associated infections in a general military hospital in Bahrain.

Method: A cross-sectional survey of a random sample of 500 medical records in the Bahrain Defence Force Hospital was carried out to ascertain the prevalence of health-care associated infections.

Result: Four health-care associated infections were recorded – a prevalence of 0.87% (95% CI 0.34-2.22). Two of the infections were surgical site infections while the other two were skin infections.

Conclusion: This study revealed that the prevalence of health-care associated infections is lower than recorded in most published studies.
# Published Abstracts

<table>
<thead>
<tr>
<th>Title</th>
<th>Reducing health risk in family members of patients with type 2 diabetes: views of first degree relatives</th>
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<tbody>
<tr>
<td>Author</td>
<td>David L Whitford†1, Hannah McGee†2 and Bernadette O'Sullivan†2</td>
</tr>
<tr>
<td>Source</td>
<td>BMC Public Health 2009, 9:455</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

Background: Patients with type 2 diabetes can have an important role in discussing health risk within families. This study aimed to establish the acceptability to first degree relatives towards their relative with type 2 diabetes intervening as health promoters in their own families, using the Health Belief Model as a theoretical framework for evaluation.

Methods: Cross-sectional questionnaire design. Survey questionnaire for first degree relative (sibling or child) mailed to a random sample of patients with type 2 diabetes registered with an urban hospital diabetes clinic (n = 607 eligible patients). Patients were asked to pass on questionnaires to one to two first degree relatives.

Results: Questionnaires were returned from 257 families (42% response rate) with two responses provided by 107 families (a total of 364 questionnaires). The majority (94%) of first degree relatives of patients with type 2 diabetes would like to be informed about reducing their risk. Half (48%) of respondents reported being spoken to by a relative with type 2 diabetes about their risk of diabetes. Those spoken to were more likely to see themselves at risk of diabetes, to worry about developing diabetes and to view diabetes as a serious condition.

Conclusions: A role for patients with type 2 diabetes in discussing health risk in their family appears to be acceptable to many relatives. Discussion of risk and interventions to reduce health risk with their relatives should be encouraged in patients with type 2 diabetes.
# ABSTRACT:

**Background:** Despite increased investment in primary care research and development (R&D), the level of engagement of primary healthcare professionals with research remains poor. The aim of this study is to assess the level of research activity and capacity for research among primary healthcare professionals in a health authority of over one million people in a mixed urban/rural setting in the West of Ireland.  

**Methods:** A questionnaire, incorporating the R+D Culture Index, was sent to primary healthcare professionals in the HSE Western Region. Baseline characteristics were analysed with the use of one-way ANOVA and Chi-square test and the dependence of R&D Culture Index score on all sixteen available covariates was examined using multiple regression and regression tree modelling.

**Results:** There was a 54% response rate to the questionnaire. Primary healthcare professionals appeared to have an interest in and awareness of the importance of research in primary care but just 15% were found to be research active in this study. A more positive attitude towards an R&D culture was associated with having had previous research training, being currently involved in research and with not being a general practitioner (GP) (p < 0.001), but much variability in the R&D culture index score remained unexplained.

**Conclusion:** Despite awareness of the importance of R&D in primary care and investment therein, primary healthcare professionals remain largely unengaged with the R&D process. This study highlights the issues that need to be addressed in order to encourage a shift towards a culture of R&D in primary care: lack of research training particularly in basic research skills and increased opportunities for research involvement. The use of the R&D Culture Index may enable groups to be identified that may be more research interested and can therefore be targeted in any future R&D strategy.
<table>
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<tr>
<th>Title</th>
<th>Is primary care a neglected piece of the jigsaw in ensuring optimal stroke care? Results of a national study</th>
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<tr>
<td>Author</td>
<td>David L Whitford, Anne Hickey†2, Frances Horgan†3, Bernadette O'Sullivan†2, Hannah McGee†2 and Desmond O'Neill†4</td>
</tr>
<tr>
<td>Source</td>
<td>BMC Family Practice 2009, 10:27</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

Background: Stroke is a major cause of mortality and morbidity with potential for improved care and prevention through general practice. A national survey was undertaken to determine current resources and needs for optimal stroke prevention and care.

Methods: Postal survey of random sample of general practitioners undertaken (N = 204; 46% response). Topics included practice organisation, primary prevention, acute management, secondary prevention, long-term care and rehabilitation.

Results: Service organisation for both primary and secondary prevention was poor. Home management of acute stroke patients was used at some stage by 50% of responders, accounting for 7.3% of all stroke patients. Being in a structured cardiovascular management scheme, a training practice, a larger practice, or a practice employing a practice nurse were associated with structures and processes likely to support stroke prevention and care.

Conclusion: General practices were not fulfilling their potential to provide stroke prevention and long-term management. Systems of structured stroke management in general practice are essential to comprehensive national programmes of stroke care.
Title: Will People With Type 2 Diabetes Speak to Family Members About Health Risk?

Author: David Whitford, MD, Hannah McGee, PHD, Bernadette O’Sullivan, PHD

Source: Diabetes Care, Volume 32, Number 2, February 2009

ABSTRACT:

Objective—This study aimed to assess the potential for communication of familial risk by patients with type 2 diabetes.

Research design and methods—A questionnaire was completed by a random sample of patients with type 2 diabetes registered with a hospital diabetes clinic.

Results—Two-thirds of patients (65%) had spoken to at least one sibling or child about diabetes risk. They were more likely to believe their family was at risk, to worry about their family developing diabetes, and to be aware of the seriousness of diabetes. The results revealed greater awareness of family risk of type 2 diabetes compared with those from previous studies.

Conclusions—Many patients with type 2 diabetes had already taken the initiative, without formal prompting, to talk to family members about their risk of diabetes. Discussion of risk and interventions to reduce risk should be encouraged within families.
<table>
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<tr>
<th><strong>Title</strong></th>
<th>‘Breaking up is hard to do’: perspectives of general practitioners and patients towards removals from GP lists</th>
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<tbody>
<tr>
<td><strong>Author</strong></td>
<td>M. Clarke  <strong>D. L. Whitford</strong>  F. O’Reilly</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

Background The numbers of removals of patients from General Practitioner lists in Ireland is increasing and is a cause for some concern.

Aims To examine the views of both general practitioners and patients toward removals of patients from general practitioner lists.

Methods Questionnaire survey to general practitioners in North Inner City Dublin who had removed patients from their list over a 1-year period (n = 45) and to the patients they had removed (n = 86). Follow up semi structured interviews were carried out with five general practitioners and ten patients.

Results For doctors, the decision to remove a problematic patient from their list is generally a positive experience, providing relief and being associated with certainty in both the decision and the process. For the patient, being removed from a GP’s list is a negative experience, stressful and confusing. Conclusions There is a need for the development of a clear responsive, transparent and supportive system for removing patients from a GP list.
**Title**  
A randomised controlled trial of a lengthened and multi-disciplinary consultation model in a socially deprived community: a study protocol

**Author**  
David L Whitford and Wai-Sun Chan

**Source**  
*BMC Family Practice* 2007, 8:38

**ABSTRACT:**

**Background:** There has been little development of the general practice consultation over the years, and many aspects of the present consultation do not serve communities with multiple health and social problems well. Many of the problems presenting to general practitioners in socioeconomically disadvantaged areas are not amenable to a purely medical solution, and would particularly benefit from a multidisciplinary approach. Socio-economic deprivation is also associated with those very factors (more psychosocial problems, greater need for health promotion, more chronic diseases, more need for patient enablement) that longer consultations have been shown to address. This paper describes our study protocol, which aims to evaluate whether a lengthened multidisciplinary primary care team consultation with families in a socially deprived area can improve the psychological health of mothers in the families.

**Methods/Design:** In a randomised controlled trial, families with a history of social problems, substance misuse or depression are randomly allocated to an intervention or control group. The study is based in three general practices in a highly deprived area of North Dublin. Primary health care teams will be trained in conducting a multidisciplinary lengthened consultation. Families in the intervention group will participate in the new style multidisciplinary consultation. Outcomes of families receiving the intervention will be compared to the control group who will receive only usual general practitioner care. The primary outcome is the psychological health of mothers of the families and secondary outcomes include general health status, quality of life measures and health service usage.

**Discussion:** The main aim of this study is to evaluate the effectiveness of a lengthened multidisciplinary team consultation in primary care. The embedded nature of this study in general practices in a highly deprived area ensures generalisability to other deprived communities, but more particularly it promises relevance to primary care.
Title: Telephone survey of private patients’ views on continuity of care and registration with general practice in Ireland

Author: Patricia Carmody and David L Whitford

Source: BMC Family Practice 2007, 8:17

ABSTRACT:

Background: The desire of patients for personal continuity of care with a General Practitioner (GP) has been well documented, but not within non-registered private patients in Ireland. This study set out to examine the attitudes and reported behaviours of private fee-paying patients towards continuity of GP care and universal registration for patients.

Methods: Cross-sectional telephone survey of 400 randomly chosen fee-paying patients living within County Dublin. There is no formal system of registration with a GP for these patients. Main outcomes were attendance of respondents at primary health care facilities and their attitudes towards continuity of care and registration with a GP. Data was analysed using descriptive statistics and using parametric and non-parametric tests of association. Pearson correlation was used to quantify the association between the described variables and attitudes towards continuity and registration with a GP. Variables showing significance at the 5% level were entered into multiple linear regression models.

Results: 97% of respondents had seen a GP in the previous 5 years. The mean number of visits to the GP for respondents was 2.3 per annum. 89% of respondents had a regular GP and the mean length of time with their GP was 15.6 years. 96% preferred their personal medical care to be provided within one general practice. 16% of respondents had consulted a GP outside of their own practice in the previous year. They were more likely to be female, commute a longer distance to work or have poorer health status. 81% considered it important to be officially registered with a GP practice of their choice.

Conclusion: Both personal and longitudinal continuity of care with a GP are important to private patients. Respondents who chose to visit GPs other than their regular GP were not easily characterised in this study and individual circumstances may lead to this behaviour. There is strong support for a system of universal patient registration within general practice.
Metal complexes of cyclic hydroxamates. Synthesis and crystal structures of 3-hydroxy-2-methyl-3H-quinazolin-4-one (ChaH) and of its Fe(III), Co(II), Ni(II), Cu(II) and Zn(II) complexes


Inorganica Chimica Acta, (2011) 368, 1, 58-66

ABSTRACT:

The attempted acetylation of anthranilic hydroxamic acid (2-aminobenzohydroxamic acid) as a possible dual inhibitor of the catalytic sites in prostaglandin-H-synthase (PGHS) gave the cyclic hydroxamic acid 3-hydroxy-2-methyl-3H-quinazolin-4-one (ChaH) which was characterised by spectroscopy and X-ray crystallography. The length of the hydroxamic acid C-N bond, 1.3998(17) angstrom, in ChaH is longer than normal (similar to 1.33 angstrom) indicative of reduced delocalisation of the nitrogen lone pair of electrons into the hydroxamic acid p system. This is confirmed by the appearance of the v(C=O) band at a considerably higher wavenumber in the IR spectrum than normal. The complexes Fe(Cha)₂(Cl)(H₂O)·7/2H₂O, Co(Cha)₂₂(EtOH)₂, Ni(Cha)₂₂(EtOH)₂, Cu(Cha)(H₂O)(Cl) and Zn(Cha)₂₂(H₂O), have been synthesised and their structures determined by X-ray crystallography. The X-ray data confirmed coordination by Cha(-) through the carbonyl and deprotonated hydroxamate oxygen in all cases. The M-O (hydroxamate) bonds are shorter than the M-O (carbonyl) bonds by between 0.0930 angstrom for the Co(II) complex and 0.0448 angstrom for the Ni(II) complex. The geometries of all complexes conform to the coordination requirements of the particular metal ion involved. Speciation studies for ChaH and its complexes with Ni(II) and Zn(II) were carried out using pH-metric methods. The results show that ChaH is much more acidic than related acyclic hydroxamic acids and that its metal complexes are correspondingly less stable.
### Title
fac-Tris(4-aminobenzo-hydroxamato)iron(III) ethanol solvate

### Author

### Source
Acta Crystallographica Section E-Structures Reports Online, (2010), 66, M853-U1294

### ABSTRACT:
In the structure of fac-Tris(4-aminophenylhydroxamato)iron(III).ethanol, the Fe(III) core is in a distorted octahedral O6 environment with the three hydroxamato O atoms (and the three carbonyl O atoms) arranged in a fac configuration and one of the hydroxamato ligands being puckered. The co-crystallized ethanol molecule is hydrogen bonded to one of the hydroxamate oxygen atoms. The O–H⋯O and N–H⋯O interactions generate infinite three dimensional networks along the base vectors [1 0 0], [0 1 0] and [0 0 1].
# The Influence of pH on Nonlinear Refractive Index of Bromophenol Blue

**Author:** Henari, FZ, Culligan, KG  
**Source:** Physics International 2010,1 (1): 27-30

## ABSTRACT:

**Problem statement:** Bromophenol blue is a pH indicator, a kind of chemical that changes colour when pH goes up or down over a narrow linear dynamic range of 3.0-4.6 pH units. Therefore a good approach must be taken to extend the linear response of the indicator in order to have simple calibration and precise measurements of PH sensors. The purpose of this experiment is to measure the nonlinear refractive index of Bromophenol blue in a PH range of 2-9.

**Approach:** Samples of Bromophenol blue solutions at an optimized final concentration of 5.25mg mL⁻¹ were prepared each having one unit pH intervals from a pH of 2 using 10 mM Tris-Cl as a buffering agent. The nonlinear refractive index response of the samples were investigated at CW laser at 514 nm using z-scan technique. Results: The closed aperture z-scan of the samples displayed a prefocal peak followed by a postfocal valley (self defocusing). A variation of the nonlinear refractive index within a pH range over 2-9 is observed. This reflects the interaction of the Bromophenol molecules with the environment. The nonlinear refractive index measured range was from 1.0×10⁻¹²-5.5×10⁻¹² m²/w for pH varying from 2-9 pH units. The correlation between the peak of the absorption and measured nonlinear refractive index is reported. Conclusion/Recommendations: The z-scan showed that Bromophenol blue exhibits a nonlinear effect of thermal origin. The experiment illustrated that the nonlinear refractive index measurements can be considered as a good indicator of pH values.
<table>
<thead>
<tr>
<th>Title</th>
<th>Two-Photon Absorption of Porous Silicon</th>
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<tbody>
<tr>
<td>Author</td>
<td>Fryad Zeki Henari</td>
</tr>
<tr>
<td>Source</td>
<td>Laser Physics Vol. 15, No. 12, December 2005, pp. 1634-1636</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

The two-photon absorption coefficient in porous silicon has been measured using the intensity dependence of transmission. The value was found to be 37 cm/GW. This value is two orders higher than for bulk Si, which is consistent with the quantum confinement established in these materials. An all-optical switch based on nonlinear absorption and pump probe technique is demonstrated.
<table>
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<tr>
<th>Title</th>
<th>Structural and optical studies of evaporated bis-(dimethylglyoximato)nickel(II) thin films</th>
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<tr>
<td>Author</td>
<td>A.A. Dakhel, Y. Ali-Mohamed Ahmed, F.Z. Henari</td>
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</table>

**ABSTRACT:**

Thin bis-(dimethylglyoximato) nickel(II) films of amorphous and crystalline structures were prepared by vacuum deposition on glass substrate held at room temperature. The crystal structure and the orientation of the samples were studied by the X-ray diffraction. The spectral absorption spectrum, which has several peaks in the studied wavelength range (200–1100 nm) was described and explained. The spectral absorption coefficient at the fundamental absorption edge in the UV region was determined. The nonlinear absorption coefficient, real and imaginary parts of the third-order optical nonlinearities \( \nu(3) \) have been determined at 580 nm by using z-scan technique.
<table>
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<tr>
<th>Title</th>
<th>Nonlinear refractive index measurement of tris(acetylacetonato) manganese(III) solution</th>
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<tr>
<td>Author</td>
<td>Fryad Z. Henari Ahmed Y. Ali-Mohamed</td>
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</tbody>
</table>

**ABSTRACT:**

We present the results from investigations of the nonlinear refractive index and nonlinear absorption coefficient of tris (acetylacetonato) manganese (III) solution, using Z-scan technique with a low-power continuous-wave laser at 514 nm. We demonstrate that the light-induced nonlinear refractive index variation leads to strong self-focusing and self-defocussing. A pump and probe technique was used to investigate the cause of nonlinearity. Furthermore, the nonlinear absorption effect was utilized to demonstrate all optical switching.
Title | Linear and nonlinear optical properties of gold nanoparticle-Eu oxide composite thin films
---|---
Author | F. Z. Henari1, and A. A. Dakhel
Source | JOURNAL OF APPLIED PHYSICS 104, 033110 _2008_

**ABSTRACT:**
In this work, nanogold particles incorporated onto europium oxide films at levels of 4% and 7% were fabricated by a vacuum evaporation technique on glass and silicon substrates held at 200 °C. Samples were investigated by x-ray diffraction and linear and nonlinear optical absorption. The linear optical absorption data were measured in the UV-visible-near infrared spectral regions and from these data the energy gap and the surface plasmon resonance were determined. The third order nonlinear optical properties of the nanogold particles incorporated onto europium oxide films were measured using the Z-scan technique. Nonlinear absorption and refraction were performed using a continuous wave laser at 633 nm. A large value of third order nonlinearities was obtained with the DOI: 10.1063/1.2967711
<table>
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<tr>
<th>Title</th>
<th>Nonlinear refractive index measurements and self-action effects in Roselle-Hibiscus Sabdariffa solutions</th>
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<tr>
<td>Author</td>
<td>F. Z. Henari and A. Al-Saie</td>
</tr>
<tr>
<td>Source</td>
<td>Laser Physics Volume 16, Number 12, 1664-1667, near and Quantum Optics</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

We report the observation of self-action phenomena, such as self-focusing, self-defocusing, self-phase modulation and beam fanning in Roselle-Hibiscus Sabdariffa solutions. This material is found to be a new type of natural nonlinear media, and the nonlinear reflective index coefficient has been determined using a Z-scan technique and by measuring the critical power for the self-trapping effect. Z-scan measurements show that this material has a large negative nonlinear refractive index, $n_2 = 1 \times 10^{-4}$ esu. A comparison between the experimental $n_2$ values and the calculated thermal value for $n_2$ suggests that the major contribution to nonlinear response is of thermal origin.
### Title
Maeve Royston  Seamus Cowman  Emer Shelley  Ronan M. Conroy  Miriam Wiley  Desmond O'Neill

### Author
Fryad Z. Henari

### Source
Optics Communications 281 (2008) 5894–5897

### ABSTRACT:
The nonlinear absorption and nonlinear refractive index of hydrogenated amorphous silicon–selenium (a-Si,Se:H) film prepared by a plasma-enhanced chemical deposition process was measured using a zscan technique. Intensity dependent transmission was observed and attributed to reverse saturation absorption (optical limiting). The thermal contribution to nonlinear refractive index is discussed. The nonlinear response time was measured by using the pump and probe technique. Reverse saturating absorption was utilized to demonstrate all optical switching.
# Published Abstracts

<table>
<thead>
<tr>
<th>Title</th>
<th>Linear and Nonlinear Optical Properties of Hydrogenated CdO Thin Films</th>
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<tr>
<td>Author</td>
<td>F. Z. Henari, A. A. Dakhel</td>
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</table>

**ABSTRACT:**

The linear and nonlinear optical properties of a CdO film post-annealed in a hydrogen atmosphere for 30 min (CdO:H) were studied. The prepared CdO and CdO:H films were characterized by X-ray diffraction and UV-VIS-NIR absorption spectroscopy. Experimental data indicated that annealing in an H2 atmosphere slightly compresses the CdO unit cell and widens the energy gap of CdO by about 3% relative to a nonhydrogenated film. This effect can be explained by the Burstein–Moss energy effect. The nonlinear absorption and nonlinear refractive index coefficients were determined and found to be higher than the values previously determined for nonhydrogenated CdO.
<table>
<thead>
<tr>
<th>Title</th>
<th>Investigation of nonlinear optical properties of gold nanograins embedded in indium oxide films by reflection Z-scan using continuous laser</th>
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<tbody>
<tr>
<td>Author</td>
<td>F. Z. Henari and A. A. Dakhel</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

Nanograins of gold-embedded in indium oxide thin films were fabricated by vacuum evaporation on silicon substrate. The gold concentrations were 3, 5, and 7 at. % as measured by x-ray fluorescence method. The x-ray diffraction results reveal that pure gold was crystallized into nanograins embedded in the indium oxide medium. The nonlinear optical properties of films on silicon substrate were investigated by reflection z-scan technique, using cw laser at 514 nm. Measurements of nonlinear refractive index and nonlinear absorption coefficient on these films are reported and the mechanism responsible for the process of optical nonlinearities is discussed.
Refractive Errors in the Bahrain Population

Mohammed A. Almuqammam, Mohamed A. Ebrahim, H. A. Radhi, Fryad Z. Henari

February/March 2011 - Volume 9, Issue 2

ABSTRACT:

Aim: The objective of this study was to demonstrate the prevalence of refractive errors in the Bahrain population.

Method: A total of 17,936 eye patients between 10-35 years of age living in Bahrain were included in this study. A data record for 2008 was collected from Bahrain Optician clinics. The records involved patients with refractive errors such as myopia (nearsightedness), hyperopia (farsightedness), astigmatism and antimetropia (one eye is myopic and the other is hyperopic). Results: Out of 17,936 patients 54.6% were myopic; 4.9% hyperopic; 39.9% astigmatismic and 0.6% antimetropia. For myopia patients, the prevalence was the highest at 25.6% for patients between the ages of 15-19 and decreasing to 15.8% for patients of ages 30-35. The prevalence of hyperopia was 18.3% for patients of 15-19 years of age and increased to 22.9% for patients of 30-35 years of age. For astigmatism the prevalence was the highest at 21.3% for patients of 15-19 years of age and was lowest at 18.9% for patients of 10-14 years of age and for antimetropia the prevalence was the highest at 23.6% for patients of 20-24 years of age and was the lowest at 15% for patients of 10-14 years of age.

Conclusion: The prevalence of refractive errors varies across different age groups. Myopia has the highest prevalence followed by astigmatism, while antimetropia is quite rare. Furthermore, patients in the age group of 15-19
## Refractive Errors in the Bahrain Population

<table>
<thead>
<tr>
<th>Title</th>
<th>Refractive Errors in the Bahrain Population</th>
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<tbody>
<tr>
<td>Author</td>
<td>Mohammed A. Almuqammam, Mohamed A. Ebrahim, H. A. Radhi, Fryad Z. Henari</td>
</tr>
<tr>
<td>Source</td>
<td>February/March 2011 - Volume 9, Issue 2</td>
</tr>
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</table>

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<table>
<thead>
<tr>
<th>Title</th>
<th>OPTICAL AND STRUCTURAL PROPERTIES OF SILVER NANOPARTICLES EMBEDDED IN INDIUM OXIDE FILMS</th>
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<tbody>
<tr>
<td>Author</td>
<td>A. A. Dakhel and F. Z. Henari</td>
</tr>
<tr>
<td>Source</td>
<td>Cerebrovasc Dis 2011;32:385–392</td>
</tr>
</tbody>
</table>

**ABSTRACT:**
Nanoparticles of silver-embedded indium oxide thin films have been prepared on glass and silicon substrates. Silver concentration were 3 wt.% and 5 wt.% as measured by X-ray fluorescence. X-ray diffraction reveals that indium oxide of these samples remains amorphous even after pre-annealing at 400°C. The optical absorption of the samples manifests the surface plasmon resonance (SPR) phenomena, which varies with Ag content. The Ag nanoparticles radius was estimated with Mie classical theory by using the SPR data analysis. The nonlinear optical properties of films on glass substrate were investigated using z-scan technique. Under cw excitation the films exhibit large reverse saturation absorption and negative nonlinearities. The real and imaginary parts of third order susceptibility of the samples were measured and the imaginary part which arises from the change in absorption is found to be dominant.
**Title**  | Visible and near-infrared absorption properties of blood from sickle cell patients and normal individuals
---|---
**Author**  | Maysa F AlMulla A1, Aysha W Agab1, Lulwa S Almannai1, Fryad Z. Henari2
**Source**  | RCSIsmj -4th edition -2010-2011

**ABSTRACT:**
The variation in optical properties shown between the two forms of haemoglobin could be due to the difference in size, shape, or three-dimensional structure. Based on these results, the estimation of the absorption spectra of HbA and HbS blood samples could provide a quick and affordable assay of blood products for SCD. Currently, SCD can be diagnosed by methods of comparable accuracy such as HPLC, electrophoresis and DNA sequencing. However, further research is required with other variants of haemoglobin such as haemoglobin C (lysine group attached to the haem group), foetal haemoglobin (HbF), and oxygenated and non-oxygenated haemoglobin S. Furthermore, research is required to determine whether visible and near-infrared spectroscopy would be a reliable method for diagnosing SCD in comparison with the gold standard diagnostic methods.
# Published Abstracts

<table>
<thead>
<tr>
<th>Title</th>
<th>Nonlinear characterization and optical switching in bromophenol blue solutions</th>
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<tbody>
<tr>
<td>Author</td>
<td>Fryad Z Henari</td>
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<tr>
<td>Source</td>
<td>Natural Sciences  August 2011, Vol.3 No.8, pp.728-732</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

In this paper the results from investigations of the nonlinear refractive index and nonlinear absorption coefficient of Bromophenol Blue using the Z-scan technique with a continuous wave laser beam at wavelengths 488 nm and 514 nm are presented. It was observed that the material exhibited reverse saturation absorption and self defocusing behavior. It was found that the increase in solution concentration resulted in linear increase of the nonlinear refractive index. A pump and probe technique was used to obtain the absorption spectrum of triplet state. Furthermore the nonlinear absorption effect was used to demonstrate all optical switching.
Title: Non-Linear Refractive Index Measurement of (2E)-3-[4-(DIMETHYLAMINO)PHENYL]-1-(2,5-DIMETHYLTHIOPHEN-3-YL)PROP-2-EN-1-ONE and (2E)-3-(3,4-DIMETHOXYPHENYL)-1-(2,5-DIMETHYLTHIOPHEN-3-YL)PROP-2-EN-1-ONE

Author: Henari, Fryad Z.; Asiri, Abdullah M.


**ABSTRACT:**

We report results from investigations of the nonlinear refractive index and nonlinear absorption coefficient of (2E)-3-[4-(Dimethylamino)phenyl]-1-(2,5-dimethylthiophen-3-yl)prop-2-en-1-one and (2E)-3-(3,4-Dimethoxyphenyl)-1-(2,5-dimethylthiophen-3-yl)prop-2-en-1-one using Z-scan technique with a continuous wave (cw) laser at wavelengths 488 nm and 514 nm. The nonlinear refractive index and nonlinear absorption coefficient of both samples were evaluated. The origin of the nonlinear effects was discussed. Optical limiting based on light induced nonlinear refractive index variation is demonstrated. The limiting thresholds were estimated for both samples. The results suggested that these materials offer promise as candidates for optical limiting and optical devices in the low power regime.
ABSTRACT:

Background: Hot flashes are the most prevalent and most bothersome symptoms of the menopausal transition and the leading cause for seeking medical attention during that period of a woman’s life. This article will shed some light on strategies for managing menopausal hot flashes using an evidence based approach.

Hormone therapy (HT), at the lowest possible dose for the shortest period of time (preferably ≤5 years), remains the best option for menopausal women with moderate to severe vasomotor symptom. The effectiveness of phytoestrogens (soy), exercise routines, yoga, acupuncture, vitamin E, evening primrose oil, and other herbal preparations has not been established. When HT is refused or contraindicated by a patient’s risk profile, consider antidepressants (selective norepinephrine reuptake inhibitors and selective serotonin reuptake inhibitors), gabapentin, or clonidine.
<table>
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<tr>
<th><strong>Title</strong></th>
<th>Percutaneous Transluminal Carotid Artery Stenting</th>
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<tr>
<td><strong>Author</strong></td>
<td>Haneen Habib Al Aali</td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td>RCSIsmj 2011-2012</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

**Background**
Carotid artery stenting is performed in Bahrain since 2006 and Bahrain Defense Hospital- Sh. Mohammed Bin Khalifa Bin Salman Al Khalifa Cardiac Centre (BDF- MKCC) is considered as an important cardiac centre in performing this kind of intervention. However, it is unclear whether the BDF-MKCC experience with this approach of therapy is as safe and effective as other international experiences.

**Methods**
We conducted a retrospective case series to review patients underwent carotid artery angioplasty and stenting in BDF-MKCC from February 2006 to February 2010. We studied the Demographic and angiographic characteristics of patients and follow the patients up to 6 months. The end points were the incidence of death, stroke, myocardial infarction or transient ischemic attack (TIA) within 30 days and 6 months after treatment.

**Results**
We performed 57 carotid angioplasty and stenting procedures in 47 patients (32 men and 15 women). The mean stenosis before stenting was 83.7% ± 11.3% and after stenting was 4.5% ± 7%. Procedural success was achieved in 96.5%. The end points occurred in 2 out of the 57 patients within 30 days and in 7 patients within 6 months. The 30-day incidence of risk factors were death 0%; stroke 0%; myocardial infarction 1.8%; and TIA 1.8%. At 6 months, there were 5 cases of myocardial infarction and 2 deaths. The 6 months complications were death 3.7%, stroke 0%, myocardial infarction 9.3% and TIA 0%.

**Conclusions**
Carotid artery stenosis appears feasible, safe and effective treatment of carotid occlusive disease and BDF-MKCC experience is considered one of the most important international experiences with this kind of intervention.
Title | Deficiency in Cardiac Dystrophin Affects the Abundance of the δ-δ - Dystroglycan Complex
--- | ---
Author | Lohan J, Culligan K, Ohlendieck K

**ABSTRACT:**

Although Duchenne muscular dystrophy is primarily categorised as a skeletal muscle disease, deficiency in the membrane cytoskeletal protein dystrophin also affects the heart. The central transsarcolemmal linker between the actin membrane cytoskeleton and the extracellular matrix is represented by the dystrophin-associated dystroglycans. Chemical cross-linking analysis revealed no significant differences in the dimeric status of the δ-δ-dystroglycan subcomplex in the dystrophic mdx heart as compared to normal cardiac tissue. In analogy to skeletal muscle fibres, heart muscle also exhibited a greatly reduced abundance of both dystroglycans in dystrophin-deficient cells. Immunoblotting demonstrated that the degree of reduction in δ-dystroglycan is more pronounced in matured mdx skeletal muscle as contrasted to the mdx heart. The fact that the deficiency in dystrophin triggers a similar pathobiochemical response in both types of muscle suggests that the cardiomyopathic complications observed in X-linked muscular dystrophy might be initiated by the loss of the dystrophin-associated surface glycoprotein complex.
Title: RN181, a novel ubiquitin E3 ligase that interacts with the KVGFFKR motif of platelet integrin alpha(IIb)beta3.

Author: Brophy TM, Raab M, Daxecker H, Culligan KG, Lehmann I, Chubb AJ, Treumann A, Moran N.

Source: Biochem Biophys Res Commun. 2008 May 16;369(4):1088-93

ABSTRACT:
We previously identified proteins that bind with high affinity to a peptide corresponding to the cytoplasmic regulatory domain (KVGFFKR) of the platelet-specific integrin subunit alpha(IIb). These included a hypothetical protein termed HSPC238, recently renamed as RING finger protein, RN181. Here, we establish the presence of RN181 in human platelets by RT-PCR, Western blotting and mass spectrometry and confirm its affinity for the platelet integrin. We demonstrate that RN181 has ubiquitin E3 ligase activity and that all other components of the ubiquitination pathway are abundant in platelets, suggesting a novel link of integrin signal transduction pathways with ubiquitin-conjugation events.
Published Abstracts

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<tr>
<th>Title</th>
<th>Visible and near-infrared absorption properties of blood from sickle cell patients and normal patients.</th>
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<td>Author</td>
<td>Maysa F. Almulla, Aysha W. Agab, Lulwa S. Almannai, Dr Fryad Z. Henari</td>
</tr>
<tr>
<td>Source</td>
<td>RCSIsmj</td>
</tr>
</tbody>
</table>

**ABSTRACT:**
Sickle cell disease (SCD) is a genetic blood disorder characterised by red blood cells that assume an abnormal and rigid shape. A point mutation in the beta globin chain of haemoglobin results in glutamic acid to be replaced with valine at the sixth position. The abnormal haemoglobin (HbS) leads to the distortion of red blood cells in certain conditions, such as low oxygen tension, and leads to sickling. Sickling decreases the flexibility of red blood cells and causes microvascular occlusion, which may manifest as stroke, acute chest syndrome, pulmonary hypertension or organ damage. SCD occurs primarily among people of sub-Saharan African, Mediterranean, Middle Eastern and Indian descent. Of note, sickle cell anaemia refers to people who are homozygous for the mutation causing HbS, while sickle cell trait refers to heterozygotes who have one normal haemoglobin gene and one sickle cell gene. Approximately 250,000 children worldwide are born each year with sickle cell anaemia. According to the Gulf Genetic Center (GGC), abnormal haemoglobin was detected in 44.35% of neonatal samples in Bahrain. Of those, 18.1% had sickle cell trait and 2.1% had SCD. Additionally, the GGC reported that in the non-neonatal cases, the overall frequency of SCD was found to be 10.44%. Several techniques are used to screen for sickle cell trait or SCD, such as high-performance liquid chromatography (HPLC), haemoglobin electrophoresis and DNA sequencing. HPLC uses ultraviolet rays to detect the difference in shape and surface area between the normal blood cells and the sickle cells. Haemoglobin electrophoresis differentiates between the haemoglobin forms based on charge, while DNA sequencing of the haemoglobin gene can detect the presence of the single amino acid substitution implicated in SCD. First reported in 1942, five different forms of haemoglobin (oxyhaemoglobin, carbomyl haemoglobin, methaemoglobin, reduced haemoglobin and metcyanhaemoglobin) were detected based on marked differences in the absorption spectra in the visible (380nm-760nm) and near infrared (760nm-2,500nm) region of the electromagnetic spectrum. No such investigation comparing the absorption spectra of normal adult haemoglobin (HbA) and sickle cell haemoglobin (HbS) has been conducted in the visible and near-infrared region. Such is the aim of this brief study.
<table>
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<tr>
<th>Title</th>
<th>Angiolympid hyperplasia with eosinophilia (epithelioid hemangioma) of the face: An unusual presentation</th>
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<tbody>
<tr>
<td>Author</td>
<td>Al-Muharraqi MA, Faqi MK, Uddin F, Ladak K, Darwish A</td>
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</table>

**ABSTRACT:**

Angiolympid hyperplasia with eosinophilia (ALHE) is a rare entity that usually occurs as 0.5-3 cm pink to brown nodules in the skin surface and subcutaneous tissues of the head & neck. Here we report an unusual occurrence in size and appearance of ALHE in the tissues of the cheek of an adult Asian male.
Title: Primary pulmonary botryomycosis presenting with septic shock and acute lung injury.

Author: Faisal H, Radwan A, Ansari N

Source: BMJ Case Reports May 12 2011

ABSTRACT:

Botryomycosis is a rare chronic suppurative bacterial infection involving mostly subcutaneous tissues and less frequently other organs. It can be diagnosed by histological examination and culture of the granules. Botryomycosis is mostly caused by *Staphylococcus aureus, Escherichia coli* and *Pseudomonas aeruginosa* but the exact pathogenesis remains uncertain. Treatment often requires a combination of both surgical debridement and long-term antimicrobial therapy. The patient is a young woman known to have Down’s syndrome. She had a dramatic presentation with septic shock and acute lung injury with persistence of pulmonary sepsis postoperatively. The importance of postoperative critical care is illustrated by this case in which a young patient underwent major surgery while septic and haemodynamically unstable. According to our research this is the first case of pulmonary botryomycosis reported in Down’s syndrome and the first case which developed septic shock requiring vasoactive drugs and ventilation in the intensive care unit.
<table>
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<th>Title</th>
<th>Differential diagnosis of malignant epithelial tumours in the liver: an immunohistochemical study on liver biopsy material.</th>
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<tr>
<td>Author</td>
<td>Al-Muhannadi N, Ansari N, Brahmi U, Abdel Satir A</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

A variety of primary and secondary malignant tumours may present in the liver. In clinical practice the most commonly encountered hepatic tumours are primary hepatocellular carcinoma, metastatic carcinoma and primary cholangiocarcinoma, each with its separate prognostic and management implications. When these tumours are poorly differentiated and the biopsy size is limited to a needle core, the distinction can be extremely difficult. All liver tumours reported between 1994 and 2004 were examined. Slides from each case were tested separately with each of nine antibodies (HepPar1, CD10, MOC31, Villin, pCEA, mCEA, CK7, CK19, and CK20). Liver biopsy tissue from 53 patients was examined in this retrospective study. The 53 liver biopsies were classified thus: hepatocellular carcinoma (n = 23); metastatic adenocarcinoma (n = 15); cholangiocarcinoma (n = 5); metastatic small cell carcinoma (n = 7); liver cell dysplasia (n = 1); carcinoid (n = 1); and unclassified (n = 1). Sensitivity and specificity values for different antibodies in relation to their positive staining of specific tumours was as follows: HepPar1 for HCC-81.8% and 100%; MOC31 for MA-73.3% and 92.1%; MOC31 for MA and CC as a combined group-65% and 100%; pCEA (canalicular) for HCC-82.6% and 83.3%; mCEA for MA-93.3% and 75.6%; CK7 for CC-100% and 68%; CK19 for MA and CC as a combined group-90% and 86.3%. An antibody panel consisting of HepPar1, pCEA, CK19 and CK7 together with either MOC31 or mCEA is recommended for use in the differential diagnosis of HCC, MA and CC.
<table>
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<tr>
<th>Title</th>
<th>Are there any cultural barriers to Automated External Defibrillator use in Middle East Countries</th>
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<tbody>
<tr>
<td>Author</td>
<td>Orla Merrigan</td>
</tr>
<tr>
<td>Source</td>
<td>Circulation Journal 2011</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

Acute myocardial infarction (AMI) in pregnancy is a very rare occurrence. However, statistics indicate high mortality rates, with a maternal death rate at 20–37%. Nursing and medical care of AMI in pregnancy is a very complex issue. Risk factors such as stress, smoking, obesity, high cholesterol and family history of heart disease may increase the risk of AMI in pregnancy. There are a variety of challenges for the nurse caring for this patient, as the presenting signs and symptoms of AMI in pregnancy can mimic regular pregnancy symptoms and therefore may be misdiagnosed. There is limited nursing literature on this topic to guide and educate nurses. Recommendations need to be implemented across multiple nursing settings. There is a need for both national and international guidelines on care of this type of patient. There is also a need for policies to be in place and links within the hospital setting and the community.
ABSTRACT:

Bleomycin hydrolase (BH) is a hexameric papain family cysteine protease which is involved in preparing peptides for antigen presentation and has been implicated in tumour cell resistance to bleomycin chemotherapy. Structures of active-site mutants of yeast BH yielded unexpected results. Replacement of the active-site asparagine with alanine, valine or leucine results in the destabilization of the histidine side chain, demonstrating unambiguously the role of the asparagine residue in correctly positioning the histidine for catalysis. Replacement of the histidine with alanine or leucine destabilizes the asparagine position, indicating a delicate arrangement of the active-site residues. In all of the mutants, the C-terminus of the protein, which lies in the active site, protrudes further into the active site. All mutants were compromised in their catalytic activity. The structures also revealed the importance of a tightly bound water molecule which stabilizes a loop near the active site and which is conserved throughout the papain family. It is displaced in a number of the mutants, causing destabilization of this loop and a nearby loop, resulting in a large movement of the active-site cysteine. The results imply that this water molecule plays a key structural role in this family of enzymes.
<table>
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<tr>
<th><strong>Title</strong></th>
<th>Pierre Fauchard and his role in the development of obturators.</th>
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<tbody>
<tr>
<td><strong>Author</strong></td>
<td>Lynch, C.D., MacGillycuddy, C.T. and O'Sullivan, V.R.</td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td>British Dental Journal 2005, 199:603-605.</td>
</tr>
</tbody>
</table>

**ABSTRACT:**
The design and fabrication of oral appliances to replace parts of the palate missing due to congenital defects or lost through tumours, infection or trauma has been a considerable challenge for clinicians throughout the history of dentistry. Significant advances were made during the eighteenth century towards resolving the problem of constructing satisfactory obturators by the first 'surgeon-dentist', Pierre Fauchard. This paper reviews his innovative designs.
<table>
<thead>
<tr>
<th>Title</th>
<th>Pierre Fauchard: the Father of Modern Dentistry</th>
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<tr>
<td>Source</td>
<td>British Dental Journal 2006, 201:779-781</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

If we reflect on the advances made over the past four centuries, it is clear that the most significant contributions to the development of our profession were made by a small number of unusually gifted practitioners. Pre-eminent among them was Pierre Fauchard (1678-1761), who is widely acclaimed as ‘the Father of Modern Dentistry’. He was concerned by the ignorance of many of his colleagues, and deplored the selfishness of the more able among them who jealously guarded the secrets of their clinical techniques. In 1728 he published a comprehensive textbook, ‘Le Chirurgien Dentiste’, which detailed the current state of dental knowledge and included very many of his own observations. It swept away the old attitudes of secrecy and introduced an era of openness and scientific evaluation. As a result of this work, France became recognised as the leading centre for dental excellence. His ideas took root in North America and profoundly influenced the development of dentistry there. In recognition and commemoration of his rôle, the Pierre Fauchard Academy was founded over sixty years ago. The Academy continues to promote the tradition of professionalism and altruism which he established.
<table>
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<tr>
<th>Title</th>
<th>Prosthodontic rehabilitation of hypophosphatasia using dental implants: a review of the literature and two case reports.</th>
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</thead>
</table>

**ABSTRACT:**

There are reports in the literature of the various dental features of hypophosphatasia, especially where it affects the deciduous dentition. The descriptions include both the manifestations of the disorder and the subsequent patterns of tooth loss. There are fewer descriptions of the effects of hypophosphatasia on the permanent dentition and little information on the subsequent prosthodontic management of these patients, particularly in relation to the use of dental implants. The aim of this paper was to review the literature on the dental effects of hypophosphatasia, present two cases and describe how one of those patients, a young adult, was successfully rehabilitated using dental implants. That latter patient’s pattern of tooth loss as well as some histological and scanning electron microscopic findings of root cementum from the other case is also described.
<table>
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<th><strong>Title</strong></th>
<th>Hunter-Schreger band patterns in human tooth enamel</th>
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<tr>
<td><strong>Author</strong></td>
<td>Lynch, C.D., O’Sullivan, V.R., Dockery, P., McGillycuddy, C.T. and Sloan, A.J.</td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td>Journal of Anatomy 2010, 217:106-115</td>
</tr>
</tbody>
</table>

**ABSTRACT:**

Using light microscopy, we examined Hunter-Schreger Band (HSB) patterns on the axial and occlusal/incisal surfaces of 160 human teeth, sectioned in both the bucco-lingual and mesio-distal planes. We found regional variations in HSB packing densities (number of HSBs per mm of amelodental junction length) and patterns throughout the crown of each class of tooth (maxillary and mandibular: incisor, canine, premolar, molar) examined. HSB packing densities were greatest in areas where functional and occlusal loads are greatest, such as the occlusal surfaces of posterior teeth, and the incisal regions of incisors and canines. From this is possible to infer that of the behaviour of ameloblasts forming enamel prisms during amelogenesis is guided by genetic/evolutionary controls that act to increase the fracture and wear resistance of human tooth enamel. It is suggested that HSB packing densities and patterns are important in modern clinical dental treatments such as the bonding of adhesive restorations to enamel, and in the development of conditions such as abfraction and cracked tooth syndrome.
### Title
Gabriel-Philippe de la Hire and the discovery of Hunter-Schreger bands

### Author

### Source
British Dental Journal 2010, 209:461-465

### ABSTRACT:
Hunter-Schreger Bands are an optical phenomenon observed in mammalian tooth enamel. Familiar to all current and former students of dental histology, this optical phenomenon appears as alternating patterns of dark and light bands when the cut enamel is viewed under reflected light. The discovery of this important feature of mammalian enamel has been historically credited to two eighteenth-century investigators, Hunter and Schreger. A re-evaluation of the evidence would suggest that the bands were observed almost seventy years earlier by a French scientist, Gabriel-Philippe de la Hire, and subsequently confirmed by the famous French dentist, Pierre Fauchard. This article reviews the contribution of de la Hire, as well as Fauchard, Hunter and Schreger to the early recognition amongst the scientific community of what would now be referred to as ‘enamel microstructure’.
Title: Hunter-Schreger Bands and their implications for clinical dentistry.


ABSTRACT:
Hunter-Schreger Bands (HSBs) are an optical phenomenon, visualized when a cut or fractured enamel surface is viewed under reflected light. These bands demonstrate the synchronous decussation of individual or groups of enamel prisms. While the role of HSBs has been investigated in comparative anatomical studies, until recently there has been little consideration of HSBs in human teeth. The aim of this paper is to consider the significance of HSBs in the human dentition and in relation to clinical dentistry. It is concluded that within the human dentition, HSB patterns have evolved to optimise resistance to attrition, abrasion and tooth fracture. It appears that certain aspects of HSB packing densities and distributions have beneficial roles in enamel bonding. HSB patterns seem to passively facilitate conditions such as abfraction and cracked tooth syndrome.
ABSTRACT:

OBJECTIVES:
Veratridine was characterized previously as an experimental model of epilepsy in vitro. The aim of this preliminary investigation is to identify the pattern of seizure induced by this model in vivo.

MATERIAL AND METHODS:
Veratridine (200 μg/kg) was administered intraperitoneally to male Sprague-Dawley rats and the electrical activity of the brain was recorded as surface electroencephalogram (EEG).

RESULTS:
The animals developed behavioral effects manifested as grooming, masticatory movements, facial automatism and wet dog shakes (WDSs). There were episodes of complete quiescent periods for 2-5 minutes before the animals presumed activity which were repeated every 15-20 minutes. The seizure activity during this silent activity showed fast frequency signals in the surface EEG correlating with absence seizure. The WDS behaviour was associated with electrical spikes on the EEG. When the rats were pre-treated with 200mg/kg ethosuximide (ETX), EEG recordings did not display the same fast frequency signal as that observed in animals receiving veratridine only. The number and duration of WDSs were not altered by ETX (200-400 mg/kg).

CONCLUSION:
Veratridine produced an absence like-seizure activity in the surface EEG, sensitive to ETX and correlates with its behavioural effects.
### Title
Analysis of drug prescriptions in primary health care centres in Bahrain

### Author
Otoom S, Culligan K, Al-Assoomi B, Al-Ansari T.

### Source
East Mediterr Health J. 2010 May;16(5):511-5.

**ABSTRACT:**
The aim of this study was to analyse drug prescribing practices in primary health care centres in Bahrain. We retrospectively evaluated 600 prescriptions selected randomly from all primary health care centres in Bahrain (n = 20) in 2004. Analysis followed WHO recommended prescribing core indicators. The mean number of drugs prescribed at each encounter was 3.3 (SD 0.7). A single drug was prescribed on 6.3% of prescriptions and drugs were prescribed by generic name on 10.2%. The percentage of total prescriptions for antibiotics was 45.8%, for injections was 9.3% and for vitamins was 12.5%. The prescribing pattern in primary health care centres in Bahrain is associated with polypharmacy, over-prescribing of antibiotics and an under-prescribing of drugs by generic names.
**Title**  
Pregabalin: preliminary experience in intractable childhood

**Author**  
Jan MM, Zuberi SA, Alsaihati BA.

**Source**  

**ABSTRACT:**

Pregabalin is a new antiepileptic drug that acts at presynaptic calcium channels, modulating neurotransmitter release. We report on treating consecutive children with severe drug-resistant epilepsy in a prospective, open-label, add-on trial. Nineteen children (63% male) aged 4-15 years (mean, 9.7; S.D., 2.9) were included. Most (74%) had daily seizures that failed multiple drugs (mean, 5). Epilepsy was symptomatic in 58%, and 74% exhibited associated cognitive deficits. Seizures were mixed in nine (47%), and four (21%) manifested Lennox-Gastaut syndrome. Pregabalin was maintained at 150-300 mg/day. On pregabalin, one (6%) child became seizure-free, and seven (37%) had >50% seizure reduction. The percentage of children with daily seizures was reduced from 74% before pregabalin to 37% afterward (P < 0.002). Side effects were evident in six (32%) with somnolence, weight gain, dizziness, or behavioral change. The drug was withdrawn in five (26%) children for lack of efficacy, and in two (11%) for worsening of myoclonic epilepsy. We conclude that pregabalin is a useful addition in the treatment of refractory childhood epilepsy. The drug should be used with caution in myoclonic epilepsy. Controlled studies are needed to establish long-term efficacy and tolerability.
Title: Estimation of the prevalence of passive smoking among adult male at a hospital based primary care clinic

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ABSTRACT:

The aim of this study is to estimate the prevalence of passive smoking among adult males at a hospital-based primary care clinic, Riyadh, Saudi Arabia.

Methods: A cross-sectional study conducted at a primary care clinic at King Khalid University Hospital, Riyadh, Saudi Arabia during the period from January to June 2010. All adult male patients who visited the clinic were interviewed and asked about their exposure to passive smoking during the last (one) month and where were the common places of exposure. Also, their opinion about their behavior toward smokers was discussed. Data has been entered and analyzed using Statistical package of social science SPSS version 15.5.

Results: The current study highlighted the preliminary estimate of the prevalence of passive smoking among adult male patients attending a primary care clinic, at a university teaching hospital, to be 83.2%. Also, it showed that public places were the most common places where most non-smokers were exposed to the hazards of passive smoking. Most passive smokers were unhappy and have been disturbed by smoking hazards, and most of them think that active smokers are careless about their environment, while 79.9% of passive smokers had difficulty leaving the place where smoking occurred because it is shared and they have their own task to finish during that time.

Conclusion and recommendation: The Prevalence of passive smoking in Saudi Arabia needs to be further studied in a community-based survey, as the preliminary estimate in this study showed high prevalence of passive smoking especially in public places. It is highly important to educate all families and communities about the importance of avoiding smoking in front of others, and to emphasize the importance of strict implementation and follow up of anti-smoking regulations especially in public places.