Foreword
Officiater i-SIHAT 2015
Minister of Health

Good day and Salam Satu Malaysia.

It is of great honour and pleasure to share my thoughts on the International Symposium of Health Sciences (i-SIHAT 2015).

First, I would like to congratulate the Faculty of Health Sciences, UKM for organizing this momentous symposium here in Kuala Lumpur.

To our foreign delegates, conference speakers, exhibitors and country representatives of i-SIHAT 2015, a very warm welcome to Malaysia, Truly Asia.

It is indeed aspiring to see multidisciplinary health science professions gather at this symposium to share and exchange thoughts and information for the sake of human health. Along with one of the main objectives of World Health Organization which is to move towards excellence in practice in the 21st century, it is vital that we see collaborations from frontliners of Health Sciences including researchers, academicians and practitioners to align strategies, key indicators and action plans for a better future of human health. In realizing these goals, we must remember that health is a shared responsibility involving all sectors: government, private, industry, healthcare administrators, professional associations, NGOs and the community.

In order to further consolidate endeavours to achieve the abovementioned goals, Malaysian government especially the Ministry of Health has never ceased to ensure the best health facilities for its people. This effort can be easily seen in the Malaysian Budget 2015 in which RM 23 billion has been allocated to improve quality and services provided by the health sector in Malaysia. With such effort, hopefully, Malaysians are able to live a healthier lifestyle and also to achieve a better quality of life.

The theme of i-SIHAT 2015, “All for Health”, is appropriate and timely to further advocate a culture of working together for better healthcare, at the national and international levels. I commend the efforts of the organising committee of i-SIHAT 2015, of the Faculty of Health Sciences UKM, for organizing this event. I wish i-SIHAT 2015 a successful symposium that is going to bring better health for all.

THE HONOURABLE DATUK SERI DR. S. SUBRAMANIAM
MINISTER OF HEALTH MALAYSIA
My heartfelt congratulation to the Secretariat of i-SIHAT 2015 and the Faculty of Health Sciences, Universiti Kebangsaan Malaysia in ensuring another successful symposium that has become a trademark of their ongoing effort in supporting the development of academic research.

The i-SIHAT 2015 provides a unique opportunity for researchers from various backgrounds, educators and experts as well as scholars of higher education both from local as well as international organizations to participate and share crucial ideas on issues and current trends in the field of health sciences.

Today also marks one of the achievements by the Universiti Kebangsaan Malaysia in promoting smart partnership with local and international counterparts by providing a platform to showcase impactful research and innovations carried out within the university, nation and internationally.

I believe that this symposium will act as a multidisciplinary approach that provides an opportunity for knowledge sharing and transfer hence promoting a more collective effort in improving health science research and innovations as indicated by this year’s theme, “All for Health”.

It gives me a great pleasure to welcome you to the International Symposium of Health Sciences (i-SIHAT 2015). On behalf of Universiti Kebangsaan Malaysia I wish all of you a memorable two days of networking that helps to foster further innovative research and collaboration for the development of health sciences at local and international levels.

PROF. DATUK. DR. NOOR AZLAN GHAZALI
VICE CHANCELLOR
UNIVERSITI KEBANGSAAN MALAYSIA
Foreword
Dean, Faculty of Health Sciences

The Faculty of Health Sciences takes the pleasure in welcoming all of you to the International Symposium of Health Sciences (i-SIHAT 2015). The symposium held biennially has been a tradition of the faculty for the past two decades. As the pride of the faculty, this symposium is aimed to bring together people of diverse scientific background working towards the advancement of health sciences. As an institution of higher education, the Faculty of Health Sciences, Universiti Kebangsaan Malaysia, is indeed privileged to provide such platform that brings together people of common interest in scientific research to showcase their current findings, consult, discuss and collaborate in order to improve the current research paradigm.

Thus in accordance to the aim of the symposium, the i-SIHAT 2015 carries the theme of “All for Health” as an effort to provide an opportunity for health science researchers both from the academia and research organizations to share innovative side of their research. As a symposium encouraging multidisciplinary cooperations, i-SIHAT 2015 is believed to be able to serve as a means to bring together practitoners and researchers who are vital in sustaining the progress of innovative research in health sciences.

As one of the leading research universities in Malaysia, we are proud to once again host such a meaningful event with hopes that this symposium will be a fruitful meeting for all health scientists both from the country and internationally. My heartfelt congratulation to faculty members who have worked towards the success of the. May this year’s event be a motivating factor for all of us to advance in respective research and innovations and to nurture possibilities in achieving a world class research.

Wishing all participants a productive and informative symposium.

PROFESSOR DR. SITI ZAMRATOL-MAI SARAH MUKARI
DEAN
FACULTY OF HEALTH SCIENCES
Foreword
Chairperson i-SIHAT 2015

It is a pleasure for us, the Organizing Committee, to welcome all of you to the International Symposium of Health Sciences (i-SIHAT 2015). This event is co-organized by the Faculty of Health Sciences, UKM and partner representations of several organizations and networks from a variety of health science sectors.

This conference allows us to understand different approaches, perspectives and sensitivities among multiple players in Health Sciences as well as offers an opportunity to initiate fruitful discussions and collaborations.

I would like to thank the Organizing Committee for their relentless effort to ensure a successful and effective symposium. Nonetheless, we also acknowledge and highly appreciate continuous supports from our partner representatives and networks from various health science disciplines. I wish all foreign delegates, conference speakers, exhibitors and country representatives a wonderful and successful two-day event as well as a memorable stay in the beautiful city of Kuala Lumpur.

PROFESSOR DR. SHARANJEET KAUR
CHAIRPERSON,
ORGANIZING COMMITTEE i-SIHAT 2015
OPENING CEREMONY
The International Symposium of Health Sciences 2015 (i-SIHAT 2015)

11 August 2015 (Tuesday)
Mines Wellness Hotel Main Hall

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<tr>
<td>9.15 am</td>
<td>Arrival of Guests</td>
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<tr>
<td>9.30 am</td>
<td>Arrival of the Minister of the Health Ministry</td>
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<td></td>
<td>Datuk Seri Dr. S. Subramaniam</td>
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<td>Doa Recital</td>
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<td></td>
<td>Welcome Speech by Chairperson of i-SIHAT 2015</td>
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<td></td>
<td>Prof Dr Sharanjeet Kaur</td>
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<td></td>
<td>Speech by Vice Chancellor of UKM</td>
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<td>Prof Datuk Dr. Noor Azlan Ghazali</td>
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<td>Opening Speech by the Minister of the Health Ministry</td>
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<td>Datuk Seri Dr. S. Subramaniam</td>
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<td>Presentation of Gifts</td>
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<td>Visit to Research Poster Exhibition</td>
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<tr>
<td>10.30 am</td>
<td>Refreshments</td>
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<td>11.00 am</td>
<td>Press Conference session</td>
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<td>Venue</td>
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<tr>
<td>07:30 - 08:00</td>
<td>Registration of Delegates &amp; Presenters</td>
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<tr>
<td>07:30 - 08:30</td>
<td>Registration of Speakers</td>
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| 08:30 - 09:30| Main Hall Parameswara               | Keynote Address: 'Interprofessional Learning: the pathway to safe and effective interprofessional collaborative care' | Professor Gary D. Rogers  
Program Lead for Interprofessional and Simulation-Based Learning, Health Institute for the Development of Education and Scholarship, Professor of Medical Education and Deputy Head of School (Learning & Teaching), School of Medicine, Griffith University, Queensland, Australia ; Immediate Past President of the Australian and New Zealand Association of Health Professional Educators  
Chairperson: Prof. Dr. Bariah Mohd Ali |
| 09:30 - 10:30| Main Hall Parameswara               | Opening Ceremony                                                          | Y.B. Datuk Seri Dr. S. Subramaniam  
Minister of Health, Malaysia                                                        |
| 10:30 - 11:00| Tea Break & Poster Viewing          |                                                                         |                                                                                         |
| 11:00 - 11:30| Main Hall Parameswara               | Plenary 1: 'Updates on care of children with special needs'             | Dr. Angela J. Fawcett  
Director, Centre for Child Research  
School of Human Science  
Swansea University, UK  
Chairperson: Assoc. Prof. Dr. Kartini Ahmad |
| 11:30 - 13:00| Main Hall Parameswara Hang Tuah Seminar Room | CONCURRENT SESSION 1                                                      |                                                                                         |
|              | Forum 1: Interprofessional approach on the care of children with special needs | Papers Theme: Young Investigator Sessions                                  |                                                                                         |
|              | Dr. Angela Fawcett (Swansea University, UK)  
Dr. Juriza Ismail (UKMMC)  
Dr. Dzalani Harun (FSK UKM)  
Dr. Aminah Kassim (MOH) | Chairperson: Assoc. Prof. Dr. Rogayah A Razak                           |                                                                                         |
|              | Moderator: Assoc. Prof. Dr. Rogayah A Razak |                                                                 |                                                                                         |
| 13:00 - 14:00| Lunch Break & Poster Presentation   |                                                                         |                                                                                         |
| 14:00 - 14:30| Main Hall Parameswara               | Plenary 2: Health and Wellness in Urban Society: A multidisciplinary Approach | Dr Chong Chee Kheong  
Director of Disease Control Division  
Ministry of Health, Malaysia  
Chairperson: Professor Dr. Siti Zamratol-Mai Sarah Mukari |
| 14:30 - 16:00| Main Hall Parameswara Hang Tuah Seminar Room | CONCURRENT SESSION 2                                                      |                                                                                         |
|              | Forum 2: Key Concepts towards Wellness | Papers Theme: Diagnostics In Multidisciplinary Healthcare                |                                                                                         |
|              | Dr Chong Chee Kheong (MOH)  
Professor Emeritus Dr. Mohd Ismail Noor (Taylor’s University)  
Mr. Paul Jambunathan (Monash University)  
Prof Dr Mohd Rizal Abdul Manaf (UKM) | Chairperson: Assoc. Prof. Dr. Ruzita Abd Talib                          |                                                                                         |
<p>|              | Moderator: Professor Dr. Ruzita Abd Talib |                                                                 |                                                                                         |
| 16:00 - 17:00| Main Hall Young Investigator Session (POSTER VIEWING)                  |                                                                         |                                                                                         |
| 17:00        | Tea                                      |                                                                         |                                                                                         |</p>
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<th>Venue</th>
<th>Program</th>
<th>Speaker / Panel Members</th>
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<td>Main Hall</td>
<td>Registration</td>
<td>Hang Tuah Seminar Room</td>
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<tr>
<td>09:00 - 09:30</td>
<td>Main Hall Parameswara</td>
<td>Invited Speaker: Mental Health across the life span: Systemic thinking for sustainable development.</td>
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<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Dr. Ng Lai Oon</td>
<td>Department of Psychology, Sunway University</td>
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<td>Chairperson: Assoc. Prof. Dr. Ahmad Rohi Ghazali</td>
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<tr>
<td>09:30 - 10:00</td>
<td>Main Hall Parameswara</td>
<td>Invited Speaker: Palliative Care</td>
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<td></td>
<td></td>
<td>Assoc. Prof. (K) Dato’ Dr. Fuad Ismail</td>
<td>Head Department of Oncology, Hospital Canselor Tuanku Muhriz, UKM</td>
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<td></td>
<td>Chairperson: Assoc. Prof. Dr. Wee Lei Hum</td>
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<tr>
<td>10:00 - 10:30</td>
<td>Main Hall Parameswara</td>
<td>Tea Break &amp; Poster Viewing</td>
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<tr>
<td>10:30 - 11:00</td>
<td>Main Hall Parameswara</td>
<td>Plenary 3: Frailty Syndrome in Geriatric Care</td>
<td>Professor Dr Ng Tze Pin Research Director, Department of Psychological Medicine, Yong Loo Lin School of Medicine, National University of Singapore</td>
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<td>Chairperson: Assoc. Prof. Dr. Yanti Rosli</td>
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<tr>
<td>11:00 - 13:00</td>
<td>Main Hall Parameswara</td>
<td>CONCURRENT SESSION 3</td>
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<td>Forum 3: Challenges in Geriatric Healthcare</td>
<td>Paper Theme: Healthcare Intervention</td>
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<td>Professor Dr. Ng Tze Pin (NUS, Singapore)</td>
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<td>Dr. Lee Fatt Soon (Geriatric Unit, HKL)</td>
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<td>Professor Dr. Tengku Aizan Hamid (Institute of Gerontology, Universiti Putra Malaysia)</td>
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<td>Dr. Hazlina Mahadzir (Hospital Canselor Tuanku Muhriz, UKM)</td>
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<td>Moderator: Professor Dr. Suzana Shahar</td>
<td>Chairperson: Dr. Hasherah Mohd Ibrahim</td>
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<tr>
<td>13:00 - 14:00</td>
<td>Main Hall Parameswara</td>
<td>Lunch Break &amp; Poster Viewing</td>
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<tr>
<td>14:00 - 14:20</td>
<td>Main Hall Parameswara</td>
<td>Plenary 4: Population laboratories: A game-changing approach to research on non-communicable diseases</td>
<td>Professor Datuk Dr. A Rahman A Jamal Director, UKM Medical Molecular Biology Institute (UMBI)</td>
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<td>Chairperson: Prof. Dato’ Dr. Jamaludin Mohamed</td>
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<tr>
<td>14:30 - 16:00</td>
<td>Main Hall Parameswara</td>
<td>CONCURRENT SESSION 4</td>
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<td></td>
<td>Forum 4: Multidisciplinary Research in Health Sciences</td>
<td>Paper Theme: Community Services</td>
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<td>Prof Datuk Dr. A Rahman A Jamal (UMBI, UKM)</td>
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<td>Dato’ Dr Ong Loke Meng (Hospital P.Pinang)</td>
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<td>Professor Dr. Sazaly bin Abu Bakar (TIDREC, UM)</td>
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<td>Prof Dato’ Dr Abu Bakar Abdul Majeed (UiTM)</td>
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<td>Moderator: Professor Dr. Baharuddin Omar</td>
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<tr>
<td>16:00 - 17:00</td>
<td>Main Hall Parameswara</td>
<td>Award Presentation &amp; Closing Ceremony</td>
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# Presentation Schedule

**Oral (Young Investigator Section)**

**11 August 2015 (Tuesday): 11.30 AM - 1.00 PM**

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<thead>
<tr>
<th>Time</th>
<th>Presenter</th>
<th>Title</th>
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<tbody>
<tr>
<td>11.30 am-11.45 am</td>
<td>Farhana Nadiah Binti Abd Ghani</td>
<td>Elemental and Nutrient Content of Semporna Brown Seaweed <em>Eucheuma cottonii</em></td>
</tr>
<tr>
<td>11.45 am-12.00 pm</td>
<td>Rozila Binti Ismail</td>
<td>Biomimetic Electrospun Polycaprolactone-Hydroxyapatite Hybrid Scaffolds for Human Adipose Derived Stem Cell and Human Osteoblast Co-Culture Differentiation into Osteogeneic Cells</td>
</tr>
<tr>
<td>12.00 pm-12.15 pm</td>
<td>Anis Adibah</td>
<td>Teen Hearing: Danger Ahead</td>
</tr>
<tr>
<td>12.15 pm-12.30 pm</td>
<td>Nurul Hanim Binti Nasa-ruddin</td>
<td>Brain Activation and Visual Field Correlates in Normal, Glaucoma Suspect and Primary Open Angle Glaucoma Patients</td>
</tr>
<tr>
<td>12.30 pm-12.45 pm</td>
<td>Juwairiah Remali</td>
<td>Genomic Study of Streptomyces kebangsaanensis Revealed an Operon Involved in Phenazine Biosynthesis Pathway and Other Secondary Metabolite Gene Clusters</td>
</tr>
<tr>
<td>12.45 pm-1.00 pm</td>
<td>Sharmila a/p Gopala Krishna Pillai</td>
<td>Outcomes of Circuit Class Therapy on Mobility, Balance, Community Reintegration and Quality of Life of Stroke Survivors: Findings from a Pilot Randomised Controlled Trial</td>
</tr>
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**11 August 2015 (Tuesday): 2.30 PM - 4.00 PM**

<table>
<thead>
<tr>
<th>Time</th>
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<th>Title</th>
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<tbody>
<tr>
<td>2.30 pm-2.45 pm</td>
<td>Wan Nor Atikah Che Wan Mohd Rozali</td>
<td>Trace Elements in Toenails and Dietary Intakes Among Farmers in Pasir Puteh and Bachok, Kelantan</td>
</tr>
<tr>
<td>2.45 pm-3.00 pm</td>
<td>Wan Zaharah Ab Wahid</td>
<td>Mothers’ Perceptions of Home Program in Speech and Language Therapy</td>
</tr>
<tr>
<td>3.00 pm-3.15 pm</td>
<td>Linsay Sundram Gnanasundram</td>
<td>Prospective Study: Presbyopic Patient Near Vision Status and Satisfaction Level After Corneal Inlay Procedure</td>
</tr>
<tr>
<td>3.15 pm-3.30 pm</td>
<td>Ching Sin Siau</td>
<td>Occupational Differences in Attitude of Health Care Workers Towards Suicidal Patients</td>
</tr>
<tr>
<td>3.30 pm-3.45 pm</td>
<td>Ng Kim Tien</td>
<td>Characterization of HIV-1 Transmission Networks Among Men Who Have Sex With Men in Asia</td>
</tr>
<tr>
<td>3.45 pm-4.00 pm</td>
<td>Fairul Harun</td>
<td>Effect of Stimulus Duration on Cervical Vestibular Evoked Myogenic Potential (cVEMP) using 500 Hz Tone Burst in Normal Hearing Adults</td>
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## Presentation Schedule

### Oral (Health Intervention)

**12 August 2015 (Wednesday) : 11.00 AM - 1.00 PM**

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<th>Time</th>
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<tbody>
<tr>
<td>11.00 am-11.15 am</td>
<td>Mahadir Ahmad</td>
<td>The Effectiveness of My Self My Child Behavioural Parenting Programme for Parents of Children with Attention Deficit Hyperactivity</td>
</tr>
<tr>
<td>11.15 am-11.30 am</td>
<td>Chia Jho Yan</td>
<td>A Comparison of Visual Performance between Two Brands of Soft Aspheric Multifocal Contact Lenses</td>
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<tr>
<td>11.30 am-11.45 am</td>
<td>Ibtisam Abdul Wahab</td>
<td>Biologically Active Compounds from <em>Myrmecodia</em> Species</td>
</tr>
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<td>12.00 pm-12.15 pm</td>
<td>Nor Aniza Azmi</td>
<td>The Clinicians Perspective: Pet-Ct in Oesophageal Cancer Management: Is It Worth It?</td>
</tr>
<tr>
<td>12.15 pm-12.30 pm</td>
<td>Gan Chun Hong</td>
<td>Clinical Rehabilitation Psychotherapy of Dousa Hou: Psychological Effects on Children with Cerebral Palsy and Developmental Disorders</td>
</tr>
<tr>
<td>12.30 pm-1.00 pm</td>
<td>Ismarulyusda Ishak</td>
<td>Health Intervention Programme (HIPFarm) among Agricultural Farmers in Kelantan</td>
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## Presentation Schedule

### Oral (Community Research & Diagnostics)

**12 August 2015 (Wednesday) : 2.30 PM - 4.30 PM**

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<td>Nur Ain Bt Mahat</td>
<td>Food Safety Knowledge and Practice among Community in Sg Pelek, Sepang Selangor</td>
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<td>2.45 pm-3.00 pm</td>
<td>Sabariah Abd Hamid</td>
<td>Knowledge and Attitude of Neonatal Jaundice – Orang Asli Perspective</td>
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<td>3.00 pm-3.15 pm</td>
<td>Sarah Rahmat</td>
<td>Simulated Learning Environment (SLE) in Audiology Education: A Systematic Review</td>
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<tr>
<td>3.15 pm-3.30 pm</td>
<td>Basyariatul Fathi Othman</td>
<td>It Takes the Whole Village to Communicate: A Case Report of a Village Sign Language in a Remote Community in Sarawak</td>
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<tr>
<td>3.30 pm-3.45 pm</td>
<td>Syarif Husin Lubis</td>
<td>Lung Function Among Farmers Exposed to Pesticides in Sungai Besar Selangor</td>
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<td>4.00 pm-4.15 pm</td>
<td>Farahnaz Binti Ahmad</td>
<td>Multimodality Imaging of Default Mode Network in Human Brain</td>
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<td>4.15 pm-4.30 pm</td>
<td>Noramaliza Binti Mohd Noor</td>
<td>“Characterization of Fabricated Optical Fiber for High Dose Irradiation Dosimetry”</td>
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<tr>
<td>Poster</td>
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<td>P1</td>
<td>Chow Paik Wah</td>
<td>Effects of 1,4-Benzoquinone (1,4-BQ) Exposure in Hematopoietic Stem/Progenitors Cells Fate: Involvement of Self-Renewal and Differentiation Controlling Genes</td>
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<td>P2</td>
<td>Tan Toong Seng</td>
<td>Replication of Avian Influenza A Virus Strain H5N1 in Madin-Darby Canine Kidney Cells</td>
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<td>P3</td>
<td>Muhd Khairul Akmal</td>
<td>Effect of <em>Hibiscuss Sabdariffa</em> Linn (Roselle) Extract on the Long Term Ex Vivo Maintenance of Murine Hematopoietic Stem Cells</td>
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<td>P4</td>
<td>Ooi Theng Choon</td>
<td>Zinc Carnosine Suppress iNOS and COX-2 Expression by Inhibiting NF-kB Activation in LPS-Induced RAW 264.7 Murine Macrophages Cell Line</td>
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<td>P5</td>
<td>Marahaini Razali</td>
<td>Evaluation of Antimalarial Activity of <em>Quassia borneensis</em> Against <em>Plasmodium berghei</em> NK65 Infected Erythrocytes</td>
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Oral (Community Research)
It Takes the Whole Village to Communicate: A Case Report of a Village Sign Language in a Remote Community in Sarawak

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Abstract: This is a case report of a unique village sign language discovered in a remote village in Sarawak. Of 117 villagers, six individuals are deaf. Four of these are adults who received neither formal schooling, nor intervention for their hearing and communication difficulties. The remaining two deaf individuals are school-going children who are currently receiving special education instructions, albeit to a limited degree. The parents of the deaf individuals were interviewed to explore their knowledge on the communication mode and strategies. The deaf individuals, their family members and neighbors were asked to demonstrate how they sign the most frequently used words in their daily living activities. These demonstrations were video-recorded. Both the interview and video data were analyzed to provide background information of the village sign language, and to build a brief taxonomy of the signs used. The results show that their village sign language is developed by the deaf individuals themselves, and it is effectively used to fulfill their basic communication needs, i.e. daily routine and necessities, as well as socializing with villagers. Interestingly, the hearing villagers also learn, and use the village sign language when communicating with the deaf villagers. This is contrary to the popular belief that the use of sign language isolates its users from the mainstream hearing society.

Knowledge and Attitude of Neonatal Jaundice – Orang Asli Perspective

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Abstract: The incidence of neonatal jaundice among aborigines is increasing with the morbidity and mortality among this group are well recognized. This study aimed to evaluate the knowledge and attitude status on neonatal jaundice among Orang Asli in Sepang, Selangor. Cross-sectional study was conducted in Kampung Orang Asli in Sg Pelek, Sepang, Selangor. A simple random sample of adults aged 18 years and above was selected. Data were collected by an interviewed structured questionnaire. Overall, out of 152 residents, 67% were aware about neonatal jaundice. Majority of them were female (72%), married (78.4%) and respondents who have children (86%). However, only 29% have good knowledge, in which 70% recognized jaundice by yellow discoloration on the body. High pitched crying (12.7%) and not feeding (10.8%) were among symptoms they knew. Almost 50% of the respondents believe neonatal jaundice may cause mental retardation. As for management of neonatal jaundice at home, majority of them (47%) will expose the baby under the sun, 7.8% will take herbal medication whereas 2% will continue with breast feeding. Almost eighty percent of the respondents will send their jaundiced baby to the hospital immediately, whereas 23% prefers management by nurse at home and 17.3% prefers to wait and see the baby’s condition. Increasing knowledge on neonatal jaundice could be the first step to enhance healthy attitude and practices during pregnancy.
Simulated Learning Environment (SLE) In Audiology Education: A Systematic Review

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Abstract : There are various types of SLE tool that have been described and developed since the 1970s in the field of audiology. These SLE tools include those for basic audiometry testing, auditory brainstem response waveform analysis, simulated patients for examination and simulated patients for counselling. With this development, many countries are now focusing on research in audiology education by either implementing or piloting the use of SLE training in their audiology curriculum. The objective of this study is to systematically review the relevant previous literature investigating the outcome of Simulated Learning Environment (SLE) training in audiology education. A systematic review research design was used and fifteen databases were searched using various relevant keywords. Based on the analysis, three of the four selected studies revealed positive findings for the use of an SLE. The SLEs group showed higher post-training score compared to the traditional training group or significantly higher post-training score than the non-training groups. One study on the other hand revealed negative findings, where the traditional training group showed significantly higher post-training score than the SLE group. In addition, two studies reported significant improvement after SLE training with the post-training scores were significantly higher than the pre-SLE-training scores. Overall, this review supports the notions that SLE training can be an effective learning tool and can be used for basic clinical training. This conclusion should be treated with caution considering the limited numbers of studies published in this area, exalting more SLE researches to be conducted in the future.

Food Safety Knowledge and Practice among Community in Sg Pelek, Sepang Selangor


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Abstract : Food safety is a basic requirement of food quality, yet it was often subjected to contamination by potentially harmful microorganisms and chemicals occur naturally from time to time when food is handled improperly. This study aimed to determine level of food safety knowledge and practice among residents in Sg Pelek, Sepang, Selangor. A total of 115 adults aged 18 years and above were selected using simple random sampling. Data were collected by an interviewed structured questionnaire. A total of 16% of the respondents are having good knowledge, followed by moderate: 49% and poor: 35%. Meanwhile, for practice on hygienic and food safety, only 13% of the respondents are portraying good practice. Majority (60%) and 27% of them are at moderate and poor level respectively. Multiple linear regression revealed that gender (p=0.048), Adj b = 0.22 (95% CI: 0.01, 2.29) appeared to be influencing factors for practice. Furthermore, there was also a significant association between education level and score on food safety practice (p<0.001), Adj b = 2.57 (95% CI: 1.15, 3.40). Only 13% of the sample is having good practice on hygienic and food safety. Findings of this study may help to improve knowledge and practice on food safety among food handlers to reduce contamination and maintain food quality to a higher extent.
Lung Function among Farmers Exposed to Pesticides in Sungai Besar, Selangor

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Abstract : Pesticides have been used widely in agriculture sector to increase productivity. However, pesticides will cause an adverse effect to human health and have been associated with lung function impairment. This study was conducted to determine the lung function of farmers in Sungai Besar, Selangor who exposed to pesticide. A cross sectional study was conducted using a validated questionnaire. Lung functions test was carried out using Cosmed Pony FX Spirometer by measuring the value of Forced Expiratory Volume for one second (FEV1), Forced Vital Capacity (FVC) and Percentage Ratio Vital Capacity (FEV1/FVC). The result showed the mean value of FEV1, FVC and FEV1/FVC were 2.26 ± 0.53, 2.84 ± 0.65 and 79.63 ± 9.74 respectively. Lung function of farmers were found to be 61.5% normal, 32.7% restrictive, 3.8 % obstructive and 2.0% having both restrictive and obstructive. The result showed a negative correlation between FEV1, FVC and FEV1/FVC with working period (r = -0.12, r = -0.13, and r = -0.25 respectively). There were positive correlation between FEV1, FVC and FEV1/FVC with length of exposure to pesticides (r = 0.11, r = 0.14, and r = 0.02 respectively) and no significant difference (p>0.05) between mean value of FEV1, FVC and FEV1/FVC and Personal Protective Equipment (PPE). In conclusion, this study showed that duration of exposure to pesticides will lead to impairment of lung function among farmers.
Oral (Diagnostics)
Phenolic Compounds in Red Seaweeds *Kappaphycus alvarezii* and *Kappaphycus striatum*

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Abstract: The presence of antioxidants in foods such as phenolic compounds is associated with a lowered risk of cancer, heart disease, hypertension and stroke. Recently, a lot of studies are looking for antioxidants from natural sources as an alternative to synthetic antioxidants. Therefore, the aim of this study is to identify the phenolic compounds in red seaweeds *Kappaphycus alvarezii* and *Kappaphycus striatum*. Two species of red seaweeds *Kappaphycus alvarezii* and *Kappaphycus striatum* were analysed for their flavonoid and phenolic acid profiles using High Performance Liquid Chromatography (HPLC). Results showed that both *K. alvarezii* and *K. striatum* extracts showed the presence of four flavonoid compounds only i.e. myricetin, quercetin, luteolin and kaempferol. Apigenin compounds were not detected in any of *K. alvarezii* extract and *K. striatum* extract. The average content of flavonoid compounds namely myricetin, quercetin, luteolin and kaempferol for *K. alvarezii* are 0.140 mg/g, 0.057 mg/g, 0.098 mg/g and 0.112 mg/g respectively. While the content of myricetin, quercetin, luteolin and kaempferol for *K. striatum* are 0.330 mg/g, 0.049 mg/g, 0.074 mg/g and 0.072 mg/g respectively. While the average phenolic acid content of *K. striatum* namely gallic acid, p-hydroxybenzoic acid and caffeic acid are 0.100 mg/g, 0.007 mg/g and 0.004 mg/g respectively. In summary, *K. striatum* showed the highest content of both flavonoid and phenolic acid compounds compared to *K. alvarezii* which could indicate that *K. striatum* had a higher antioxidant capacity than *K. alvarezii*.

Multimodality Imaging of Default Mode Network in Human Brain

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Abstract: This research investigates the feasibility of characterizing negative blood oxygenation level dependent response (nBOLD) in default mode network (DMN) using simultaneous event-related functional magnetic resonance imaging (er-fMRI) and magnetic resonance spectroscopy (MRS) in short timing on 2 males and 2 females (mean age = 28.5 years). A working-memory task with randomized alphabets and a fixation ‘+’ was presented to subjects during target/encoding. One trial consisted of target, delay, preparation, and probe displayed to subject and response time for a total of 32.7 sec. There were 25 trials lasted for ±13.63 min for each subject during fMRI data acquisition. Imaging Sequences: Routine localizer (scan time= 13 sec) followed with T1 weighted 3D MPR (scan time = 4.26 min), resting-state chemical shift imaging technique (scan time= 7.17 min) and fMRI-BOLD with GE-EPI (scan time = 14.55 min). Data Processing and Analysis: fMRI images were processed and analyzed with Statistical Parametric Mapping (SPM8, the Wellcome Trust Centre for Neuroimaging, London, UK. Hemodynamic response functions (HRFs) were analyzed using in-house software, sHRF. The spectrums were quantitated using jMRUI v.4.0 (Java-based Magnetic Resonance User interface). The correlation between the variables was analyzed. The study observed NBR to exist in all subjects during resting state in anterior cingulate cortex (ACC). HRF of NBR and Glu/Cr (mmol) were obtained from ACC. Pearson’s correlation between the amplitude and time to peak of HRF with the Glu/Cr concentration was obtained. No significant correlation between the HRF parameters and Glu concentration in all subjects. NBR signal have been observed in this study in DMN using er-fMRI. NBR through the deactivation of neural activity during resting state in human brain is evident. sHRF has shown suitable to estimate HRF in er-fMRI. Conclusion: The present study reported no significant correlation between NBR and Glu/Cr in ±13.63 min.
Characterization of Fabricated Optical Fiber for High Dose Irradiation Dosimetry

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Abstract: Food irradiation is a process carried out to improve hygienic quality and germination control, to retard sprouting and also to enhance physical attributes of the food product. In order to provide for food safety, radiation dosimetry in irradiated foods is required. In the present study, use is made of germanium doped (Ge-doped) optical fibres of various forms, dimensions and dopant concentrations. The fibres are irradiated using a gamma source irradiator (Gamma Cell 220 Excel), with doses from 1 kGy up to 10 kGy. For the particular Ge-doped optical fibres, investigation has been made of linearity with dose, reproducibility, and fading, intercomparisons being made. The fibres all exhibit TL yields that are linear with dose from 1 kGy up to 10 kGy, exceeding the dose range of all commercial high dose dosimeters used in the food irradiation industry. In respect of the flat fibre dosimeters, the mean reproducibility was found to be within 0.53% to 4.96%, also offering low signal loss (fading), within 13.41% (for fibres of cross-sectional dimensions 60 x 180μm) to 20.12% (for fibres of cross-sectional dimensions 200 x 750μm), after 22 days of storage.
Oral (Health Intervention)
A Comparison of Visual Performance between Two Brands of Soft Aspheric Multifocal Contact Lenses

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Abstract: This study was conducted to compare visual performance between two brands of center-near aspheric design soft multifocal contact lens available in the Malaysian market: Brand A (Balafilon A) and Brand B (lotrafilcon B). The distance and near visual acuity, contrast sensitivity function and stereoacuity were assessed. Ten presbyopic patients participated in this pilot study. Subjects were fitted with both brands of multifocal contact lens in a random sequence. Distance visual acuity was measured with Logarithmic Visual Acuity Chart Early Treatment Diabetic Retinopathy Study (ETDRS) at 6 meters. Near visual acuity was measured with Hoya near card at 40cm. Contrast sensitivity function was measured with Pelli-Robson Chart at 1 meter. Stereoaucitiy was measured with Random-dot stereoaucitiy test at 40cm. For Brand A lens, the average monocular distance visual acuity was 0.08±0.11 for OD and 0.12±0.09 for OS. Average binocular distance visual acuity was 0.01±0.03. Whereas, average monocular near visual acuity were 0.32±0.14 and 0.27±0.14 for OD and OS respectively. Average binocular near visual acuity was 0.22±0.04. Average monocular contrast sensitivity function was OD: 1.93±0.05 and OS: 1.87±0.12. Average binocular contrast sensitivity function was 1.94±0.05. Average stereoaucitiy was 64.60±40.97. For Brand B lens, average monocular distance visual acuity was 0.07±0.11 and 0.08±0.06 for OD and OS, respectively. Average binocular distance visual acuity was 0.01±0.06. Average monocular near visual acuity for OD and OS were 0.27±0.09 and 0.24±0.07 respectively. Average binocular near visual acuity was 0.23±0.07. Average monocular contrast sensitivity function was OD: 1.86±0.14 and OS: 1.83±0.15. Average binocular contrast sensitivity function was 1.94±0.05. Average stereoaucitiy was 70.10±53.25. Brand B lens was found to provide better distance and near visual acuity, while Brand A lens was able to provide better stereoaucitiy. These differences failed to reach statistical significance. (p>0.05). Multifocal contact lenses tested were able to provide adequate distance and near visual acuity.

The Clinicians’ Perspective: Pet·Ct in Oesophageal Cancer Management: Is It Worth It?

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Abstract: Assessment of clinicians’ points of views on the importance of PET-CT on practicality, clinical efficacy and the cost benefit in oesophageal cancer management. This survey is part of a wider study into the cost-effectiveness of PET-CT in the oesophageal cancer management. An integral part of this work used a focused survey to determine clinicians’ perceptions on practicality, clinical efficacy and cost–effectiveness of PET-CT. 134 clinicians responded with return rate of 27%. In 9 out of 15 questions majority of participants showed a tendency to agree on practicality and clinical effectiveness of PET-CT, whilst no similar tendency was found for cost effectiveness. In contrast to other topics, majority of feedback related to cost-effectiveness skewed towards neutral or no opinion. There is a clear understanding that PET-CT has positive impact in the management oesophageal cancer patients. Issues related to expertise, availability, staffing issues and bureaucracy need to be addressed for future improvement on competency and quality of services.
The Effectiveness of My Self My Child Behavioural Parenting Programme for Parents of Children with Attention Deficit Hyperactivity

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Abstract: Parents of Attention Deficit Hyperactivity Disorder (ADHD) are at high risk to experience parental stress. The severity of the child’s excessive motor activity, impulsiveness and short attention span might contribute to the high level of parental stress, which might consequently affect the parent-child relationship. This study aimed to introduce the My Self My Child Behavioural Parenting Programme (MMBPP) to parents of children with ADHD and examine its effectiveness in improving parents’ psychological wellbeing (parental stress, competency and parent-child relationship). The study hypothesised that the MMBPP would decrease parental stress, besides increasing parents’ competency and parent-child relationship. The MMBPP research team developed this parenting programme based on the behaviour management approach by producing programme’s module and workbook to guide the participants in applying the techniques on their children. Sixteen participants (ten mothers and six fathers) participated in this study. They were divided into two groups (intervention group and control group), with eight parents in each group. Participants in the intervention group attended seven sessions, which were conducted twice monthly, with duration of 150 minutes per session. Meanwhile, control group participants just followed the standard care. Participants in both groups completed the Parenting Stress Index-Third Edition (PSI-3rd) and Conners’ Parent Rating Scale-Revised-Short Form (CPSR-R-S) at pre- and post-intervention. Results showed that parents of children with ADHD tend to report high level of parental stress ($M=312.5, SD=37.20$). ADHD characteristics significantly contributed to the parental stress ($R^2=0.39, F(1,14)=8.75, p=0.010$). However, the study found no significant improvement on the parent’s psychological wellbeing after the intervention and there was no significant difference on psychological well-being between the control and the MMBPP group after the intervention. It was speculated that the insignificant results might be contributed by the length of the intervention and the limited participant number which should be considered in the future studies.
Clinical Rehabilitation Psychotherapy of Dousa Hou: Psychological Effects on Children with Cerebral Palsy and Developmental Disorders

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Abstract: Dousa Hou or Dousa Approach is a Japanese clinical rehabilitation psychotherapy approach which uses motor action in attending clients' psychological needs. For children with cerebral palsy and developmental disorders such as autism and attention-deficit/hyperactivity disorder, application of talk psychotherapy is difficult. As alternative, Dousa Hou offers holistic psycho-rehabilitation ways by emphasising the elements of “intention”, “striving” and “body movement” in helping these children to experience and achieve psychological changes. Today, Dousa Hou is even applied as intervention for people with mental disorders and health management for general population. It is widely practised in Japan and has been adopted by The Social Welfare Department of Malaysia since 1990 as a psychotherapeutic intervention in institutions and Community Based Rehabilitation (CBR). This research is an exploratory research uses multiple case studies to investigate the effectiveness of Dousa Hou on children with cerebral palsy and developmental disorders. The subjects are 12 respondents from Kuala Lumpur and Penang Dousa Hou rehabilitation psychotherapy camp. The physical and psychological functions which include social communication, emotion and behaviour aspects are investigated. Qualitative and quantitative analyses immediately after the camp and longitudinal study after one month show improvement in overall psychological behaviours, increased compliance and concentration to tasks. However, emotional function requires substantial duration to develop and improve. While for physical functions, better body posture and higher awareness to body movement are observed. Issues on touching, interactive and emotional grounded therapeutic relationships, motivation, International Classification of Functioning Disability (ICFP) model, separation, observational learning and debriefing are analysed to show their relatedness to effectiveness of Dousa Hou.

Biologically Active Compounds from Myrmecodia Species

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Abstract: This paper discusses on the natural compounds from the ant plant (Myrmecodia species, family: Rubiaceae). The ethyl acetate (EtOAc) extract from the tuber of M. platytyrea was fractionated by using medium pressure liquid chromatography, giving eight fractions (F1-F8). Those fractions were evaluated using the 2, 2-diphenyl-1-picrylhydrazyl (DPPH) assay. Fraction F5 was recorded as potent (EC50 = 21.57 ± 1.40 µg/mL). Then, it was purified by using column chromatography (CC) (mobile phase = chloroform: EtOAc). From the CC, ten fractions (F5F1-F5F10) were obtained and compound (1) was isolated from F5F3 via preparative thin layer chromatography (TLC). After spraying with anisaldehyde-sulphuric reagent, compound (1) gave a green TLC spot (Rf = 0.65, 100% CHCl3, multiple development). The 1H-Nuclear Magnetic Resonance (NMR) spectroscopy (500 MHz, CDCl3) was performed to determine the chemical framework of (1). This compound was later identified as morindolide, having an iridoid structure. Meanwhile, the mass spectra for compounds (2) and (3) were analysed. The data presented the molecular ion at m/z 375 [M-H]- and 255, suggesting the formulation of 2-(2-methylbutyryl)phloroglucin glucoside and a flavanone, respectively. From the literature, compound (1) was firstly isolated from a Chinese natural medicine, the dried root of Morinda officinalis (family: Rubiaceae). The flavonoids are also included as the biologically active compounds from Myrmecodia. In short, this is the first occurrence of morindolide from the ant plant.
Oral (Health Intervention)

Health Intervention Programme (HIPFarm) among Agricultural Farmers in Kelantan

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Abstract: Pesticide has been used widely by the Malaysian farmers to protect their crops. But people are less aware on the adverse effect of pesticide usage to human’s health. By focusing on this health related issues, Health Intervention Programme (HIPFarm) has been developed and held from December 2012 to October 2013 at Pasir Puteh, Kelantan which aimed to increased farmers’ awareness regarding pesticide usage. This research was carried out to evaluate the effectiveness of HIPFarm based on awareness of farmers. It involved 131 farmers in a quasi-experimental study. Intervention effects on insecticide–related knowledge, attitude and practice (KAP) were evaluated by using questionnaire involved two locations which was Pasir Puteh as intervention group and Bachok as control. Simple random sampling was employed for subject selection. Reliability test showed good reliability for attitude questionnaire (cronbach alpha of 0.7). The result was analysed using SPSS version 22 by employing two way ANCOVA. The covariates used in analysis were pre practices score (5.33), pre attitude score (24.06), pre knowledge (9.39), age (56 years old) and monthly income (RM1021.57). Post practices score showed no significant difference by location (p= 0.712) and education levels (p=0.345). Pasir Puteh and Bachok showed improvement in mean score of practices from 5.33 to 5.77 and 5.93 respectively. The attitude score also showed no significant difference by locations (p=0.391) and education levels (p=0.261). Both Pasir Puteh and Bachok’s attitude showed improvement in their mean score from 24.06 to 27.4 and 26.7 respectively. This differs from knowledge that showed significant difference (p<0.05) by location but no significant difference found for education levels (p=0.247). However, both Pasir Puteh and Bachok showed reduction in the mean score from 9.39 to 8.10 and 8.86 respectively. In conclusion, HIPFarm has slight effect to increase farmer’s practices and attitude. There were many factors influence this result.
Oral (Young Investigators)
Prospective Study: Presbyopic Patient Near Vision Status and Satisfaction Level After Corneal Inlay Procedure

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Abstract: More people are in search of solutions to presbyopia. Corneal inlay is creating a benchmark in the world's presbyopic solution. There has been no publication in Malaysia pertaining to near vision status and patient satisfaction after the corneal Inlay procedure. Therefore, understanding the near vision status and patient satisfaction level in presbyopic that undergo the procedure is crucial to give practitioner leverage in co-managing patients. This study aimed to determine the association between the near vision status and patient satisfaction level who has undergone the corneal Inlay procedure. The study design was a prospective study. Thirty patients involved in the study and purposive sampling method was used. The near visions of patients were monitored at month 0, 1, 3 and 6. Patient's satisfaction was assessed using the Near Activity Visual Questionnaire (NAVQ) that was designed for evaluation of presbyopic corrections done at month 0 and 6. The participants' mean age was 44.73 ± 2.62 years old. The mean result for near visual acuity (LogMAR) for Month 0 was 0.50 ± 0.01, Month 1 was 0.12 ± 0.01, Month 3 was 0.13 ± 0.01 and Month 6 was 0.13 ±0.01. The data was found to be normally distributed and the results showed statistically significant changes in near visual acuity (p<0.05). The NAVQ revealed that 30% were completely satisfied, 23.3% were very satisfied, 36.7% were moderately satisfied and 10% were little satisfied after undergoing the procedure. There was improvement in near visual acuity and patients were satisfied with the corneal Inlay procedure. Hence, through this study better understanding regarding the corneal inlay procedure was obtained.

Mothers’ Perceptions of Home Program in Speech and Language Therapy

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Abstract: Home program is defined as a set of activities given by the speech therapists to mothers to carry out therapy session’s goals at home. It is viewed as a strategy to increase the cost effectiveness of speech therapy itself, generalize child’s skills in various linguistic contexts and provide mothers with knowledge and confidence in their care giving role. In completing the program, mothers are expected to be an active agent of intervention at home. This study’s main objective was to investigate mothers’ perceptions of home program in speech therapy in the context of practice, barriers to practice and use of facilitative language techniques. The second objective was to determine the relationship between the practice of home program with the barriers to practicing the home program and language techniques used. Sixty six questionnaires were distributed during the 7 month data collection period to mothers whose children received speech therapy at the public speech therapy centres in Kota Bharu, Kelantan. The results showed that the majority of mothers perceived that they highly practised the home program that was provided to them. Mothers identified child factor as the most prominent barrier against completing the home program. Mothers also reported that they used the lower level of facilitative language techniques (i.e imitation) more often compared to higher level techniques (i.e open ended question) when interacting with their children. Regression analyses indicated that in combination, barriers to practice and language techniques used accounted for a significant 41.3% of the variability in practice of home program, (R²=.413, adjusted R²=.394, F(2,63)=22.152, p<0.01). In conclusion, mothers in Kelantan perceived that they highly practised the home program, identified child factor as the barrier and used lower level of facilitative language techniques when interacting with their children.
Elemental And Nutrient Content of Semporna Brown Seaweed *Eucheuma cottonii*

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Abstract: *Eucheuma cottonii* is a species of seaweed found in the sea of Semporna, Sabah consumed by the local community due to its nutritional values. However, it could also pose a health problem due to its high content of mineral and heavy metals. The present study therefore, was objectively done to identify the level of 19 elemental composition using inductive coupled plasma mass spectrometry as well as its nutrient content in *Eucheuma cottonii* using proximate analysis. Phosphorus is the essential mineral found in highest concentration at 2680.02 ppm in this brown edible seaweed whereas the non-essential trace metal found in abundance was strontium at 510.33 ppm. Zinc content at 287.64 ppm was shown to be the highest out of 8 trace elements studied. The arsenic level at 75.42 ppm in *Eucheuma cottonii* is considered high compared to Pb and Cd at respectively, 3.05 ppm and 3.30 ppm. The content of total ash at 30.82 % indicated a high presence of minerals whereas the crude protein content of 12.54 % is indicative of its nutritional value. The carbohydrate content at 21.64 % also shows that *Eucheuma cottonii* is nutritional whereas its lipid content of 0.30 % indicates that it is low in fat which can benefit the health. As a conclusion, *Eucheuma cottonii* exhibited a rich source of beneficial minerals such as phosphorus and zinc with high carbohydrate value but it was shown to contain high level of arsenic as a toxic heavy metal.

The Cognitive Measures with Types of Games in Ipad® Among University Students

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Abstract: In these modern days, digital games have found potential ways in clinical care which influence the therapeutic methods and patients rehabilitation. This study was aimed to identify the relationship between psychophysiological and cognitive measures with types of games in iPad®. This cross-sectional study involved 50 students from Faculty of Health Sciences, UKM. The types of games used were Asphalt 7 and Cut the Rope for action and strategy genres respectively. Cognitive function assessed from median reaction time (MRT), correct and wrong answers through Determination Test (DT) via Vienna Test System. Results showed that there was a significant difference in MRT (t=5.861, p<0.001), correct answers (t= -4.205, p<0.001) and wrong answers (t= -2.994, p=0.004) of before and after playing the strategy games. The cognitive measures were also compared according to means in before and after the action game plays. Results showed there was a significant difference between before and after the action game play in MRT (t= 7.653, p<0.001), correct answers (t= -7.446, p<0.001) and wrong answers (t= -4.558, p<0.001). Meanwhile, there was a significant difference in means of MRT of before and after playing the strategy games between gender (F= 31.045, p<0.001), course of study (F=25.269, p<0.001) and year of study (F= 17.915, p<0.001). There was also a significant difference in MRT before and after playing the action games between gender (F= 53.195, p<0.001), course of study (F= 46.288, p<0.001) and year of study (F= 15.455, p<0.001). Cognitive assessment before and after playing games for both strategy and action games showed a significant difference between MRT, correct and wrong answers (p<0.05). In conclusions, this study suggests that usage of iPad® games may alter cognitive function and may be used as therapeutic tool in cognitive rehabilitation. Further research in this area is needed especially to determine the effect of long time usage of iPad® games on individuals.
Occupational Differences in Attitude of Health Care Workers Towards Suicidal Patients


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Abstract: Research has shown that up to 49% of patients who completed suicide received care from health services within four weeks of death. This research explored the attitude of health care workers towards suicidal patients, taking into consideration how the occupation of health care workers affects their attitude towards suicidal patients. This is a quantitative study on health care workers (n = 448) from five randomly sampled public hospitals in Malaysia. Participants were recruited using purposive sampling from seven identified departments in the selected hospitals. The health care workers’ come from various occupational backgrounds which are doctors (n = 82), nurses (n = 189), assistant medical officers (n = 79), medical assistants (n = 80), counsellors (n = 4), and others (n = 14). A translated and validated self-administered questionnaire was used. Descriptive analysis and Chi-Square test were used. Doctors are more likely to agree that everyone are potentially suicide victims, and the difference in agreement between Doctors and Non-Doctors was significant (74.4% vs 52.3%, p<.001). Only Doctors and Counsellors agreed that suicidal behaviour is essentially a way of crying out, and the difference in agreement between Doctors and Non-Doctors was significant (65.4% vs 39.1%, p<.001). Similarly, a smaller percentage of Doctors and Counsellors compared to other occupations agreed that suicide attempters are less religious than others (p=.001), and that suicide among younger people is puzzling (p=.001), with a significant difference between Doctors and Non-Doctors (65.4% vs 86.5%, p<0.001; 68.3% vs 86.1%, p<.001). Finally, a smaller percentage of Doctors (61%) and Counsellors (50%) compared to other occupations agreed that suicidal behaviour can be irritating, while the highest percentage of agreement was among Hospital Attendants (91%; p<.001). The findings show that there should be more suicide awareness training among all health care workers.
Biomimetic Electrospun Polycaprolactone-Hydroxyapatite Hybrid Scaffolds for Human Adipose Derived Stem Cell and Human Osteoblast Co-Culture Differentiation into Osteogeneic Cells

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Abstract: Tissue engineering and regenerative medicine has evolved as a new treatment modality for many diseases. One of the most favourable areas of application is bone tissue engineering. It offers a promising alternative treatment of bone damages and/or injuries caused by trauma, tumours infections, and abnormal skeletal developments. In this present bone tissue engineering study, we aimed to evaluate the osteogeneic potential of human adipose derived stem cells (HADSC) co-cultured with human osteoblast cells (HOB) using the selected ratios of 2:1, 1:1, and 1:2 of HADSC/HOB. The various ratios HADSC/HOB were seeded on the 3D electrospun biopolymer scaffold i.e. polycaprolactone (PCL) mixed with bovine-derived hydroxyapatite (HA) (PCL-HA). The monoculture or the individually cultured HADSC and HOB were also seeded on the PCL-HA and used as the control groups. The assessment of cell adhesion to the 3D hybrid scaffolds were characterized by the field emission scanning electron microscope (FESEM), cell viability by Alamar Blue assay, cell differentiation by alkaline phosphatase (ALP) assay and cell mineralization by Alizarin Red Assay. All evaluations were carried out at each time point of Day-1, -7 and -14. From the result, HADSC/HOB (2:1) seeded on PCL-HA demonstrated a significantly higher cell viability (420.21±48.453, p=0.003) on day 14 than the other groups. The HADSC/HOB (2:1) also showed a significantly higher alkaline phosphatase activity (1.81±0.125 I/U, p=0.001) and mineralization (3.29±0.06 μM, p=0.018) than the other groups. Based on FESEM, the HADSC/HOB (2:1) seeded on the PCL-HA continues to surpass the other groups seeing that the cells were actively adhere, migrate and differentiate towards osteoblastic morphology. Taken all together, the results indicated that the PCL-HA hybrid scaffolds serve as a potential biomimetic 3D microenvironment that promotes osteogeneic differentiation of the HADSC/HOB (2:1). It is hoped that this present findings could contribute to and promote the progress of bone tissue engineering.

Outcomes of Circuit Class Therapy on Mobility, Balance, Community Reintegration and Quality of Life of Stroke Survivors: Findings from a Pilot Randomised Controlled Trial

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Abstract: Circuit class therapy is commonly implemented in rehabilitation of stroke survivors. However its benefit in enhancing post-stroke functional status remains unclear. The objective of this study was to examine the outcomes of circuit class therapy on mobility, balance, community reintegration level and health related quality of life among stroke survivors. The research design was randomised controlled trial. Stroke survivors were allocated into circuit class therapy (experimental group) or usual therapy (control group) using stratified block randomisation method. 78 stroke survivors are required to achieve 10% group difference at 80% power. Both therapies were conducted once a week for 12 weeks in physiotherapy department, UKM Medical Center. Measurements were taken at pre and post intervention by blinded assessor using Instrumented Timed Up and Go test (iTUG), Berg Balance Scale (BBS), Reintegration to Normal Living Index (RNLI) and EuroQOL-5 dimensions (EQ5D). Twenty stroke survivors, 11 in experimental and 9 in control group, with mean age of 56.65 ± 9.12 years completed intervention to date. A significant within group effect was observed for balance (F (1, 18) = 17.49, p=0.001), community reintegration (F (1, 18) = 7.633, p<0.05), and health related quality of life (F (1, 18) = 32.72, p=0.001). However, no significant difference between groups effect was observed for the variables. No significant difference within and between groups differences were observed for mobility level. The preliminary findings indicate that a 12-week, once per week circuit class therapy and usual therapy are beneficial in enhancing post stroke quality of life and function except mobility.
Genomic Study of Streptomyces kebangsaanensis Revealed an Operon Involved in Phenazine Biosynthesis Pathway and Other Secondary Metabolite Gene Clusters

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Abstract: Antibiotic resistance is one of the most significant challenges to the health care sector in the 21st century. It is generally accepted that the Streptomyces have a particular capacity to produce a large variety of different bioactive compounds that have a wide spectrum of activity. Streptomyces kebangsaanensis, an endophytic isolated from plant Portulaca oleracea has antibacterial compound that consists of major chemical structure of phenazine. This study was carried out to analyze the genome of S. kebangsaanensis using a next generation sequencing approach as well as to determine gene cluster that involved in biosynthesis pathway of phenazine antibiotics. The data has been analysed using different application of bioinformatics software. The genome of S. kebangsaanensis is composed of one linear chromosome with 8,328,719 base pairs having high GC content (71.35%), distributed in 170 scaffolds that include 560 contigs. Genome analysis revealed that its chromosome contained 12 rRNA operons, 81 tRNA and 7,558 protein coding genes. Nonetheless, 443 genes are uncharacterized with no homology to known proteins. Further genome analysis revealed at least 24 gene clusters encoded for polyketide, nonribosomal peptide, terpene, bacteriocin, sideraphore biosynthesis. Subsequent bioinformatics analysis identified a putative operon believed to be responsible for the biosynthesis of phenazine in S. kebangsaanensis. Comparative of this operon against genomes showed that neighborhood relationship of genes in the operon tend to be well conserved across phylogenetically-related species. Phenazine biosynthesis pathway in Streptomyces kebangsaanensis has been proposed. This study provides an understanding of the species up to the genomic level and a better understanding toward S. kebangsaanensis for its potential in producing various antibiotic. Moreover, the genome analysis has allowed us to identify an operon that responsible for phenazine antibiotics biosynthesis, which could facilitate the future genetic engineering research in designing new synthetic phenazine antibiotics.
Effect of Stimulus Duration on Cervical Vestibular Evoked Myogenic Potential (cVEMP) using 500 Hz Tone Burst in Normal Hearing Adults

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Abstract: Cervical Vestibular Evoked Myogenic Potential (cVEMP) is a routine vestibular test which checks the integrity of vestibulocolic reflex (VCR) pathway. Clinically, 500 Hz tone burst is widely used as stimulus to evoke a cVEMP. Although several studies have suggested different stimulus durations for eliciting cVEMPs, but not many have reported optimal stimulation duration for evoking cVEMP using 500 Hz tone burst stimuli. Therefore, the present study investigated various cycles of stimulus duration that would produce a robust cVEMP. Thirty subjects participated in the study. Subjects were attached with four electrodes on upper torso and were required to sit on a chair and contract the sternocleidomastoid (SCM) muscle to the contralateral side of the presented stimuli. Four different cycles of 500 Hz were tested: 2-0-2 cycle as the standard duration, while 0-2-0 cycle, 0-4-0 cycle, and 0-10-0 cycle were the experimental duration. Each cycles were presented twice to the right and left ears to see the repeatability. The P1, N1, and P2 absolute latencies, and P1-N1 inter-amplitude of the two cVEMPs from each cycle were analyzed. Results revealed that the P1 latency was significantly longer for the experimental duration (0-10-0) as compared to other stimulus durations (2-0-2, 0-2-0 and 0-4-0). N1 latency was statistically different using the standard durations (2-0-2) and (0-2-0) as compared to the (0-10-0) cycle. P2 latency showed no significant differences among stimulus durations. Surprisingly, P1-N1 inter-amplitude revealed no significant differences across all stimulus durations. Overall, scores revealed that the rise/fall time of 2 ms with 0 or 1 ms of plateau time yielded the most robust cVEMP. It was found that the P1-N1 inter-amplitude was severely affected after 4 ms of stimulus duration.

Brain Activation and Visual Field Correlates in Normal, Glaucoma Suspect and Primary Open Angle Glaucoma Patients

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Abstract: The purpose of this study was to evaluate the relationship between visual field and brain activation in visual cortex for normal, glaucoma suspect (GS) and primary open angle glaucoma (POAG) participants using Standard Automated Perimetry (SAP) and functional magnetic resonance imaging (fMRI). The fMRI scans were carried out in the Department of Radiology, PPUMK using a 3-T Siemens Magnetom Verio scanner. The SAP test was carried out using Humphrey's Field Analyzer (HFA) in the Department of Ophthalmology, PPUMK. Black-and-white checkerboard patterns of meridian-mapping were displayed to the participants during fMRI scans to stimulate visual field. The fMRI data were analysed using WFUPickatlas toolbox targeting visual cortex area. The results showed there were no significant differences in number of activated voxel between the three groups while viewing all the given stimuli types (p>0.05). The pattern standard deviation (PSD) of SAP visual field results also revealed no significant difference (p>0.05) in all groups of participants. However, negative correlation between PSD and fMRI activation was observed. PSD values increases with a decrease in fMRI activation. The glaucomatous neuropathy of POAG patients has led to a gradual decrease of visual cortex cortical activation and a gradual increase in PSD.
Characterization of HIV-1 Transmission Networks Among Men Who Have Sex With Men in Asia

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Abstract: HIV-1 subtype B and CRF01_AE continue to dominate among men who have sex with men (MSM) in major parts of Asia. Although several studies have highlighted the role of transmission networks in fueling the AIDS epidemic among MSM, regional data from Asia remains limited. Here, we examined the evolutionary history of HIV-1 transmission networks by estimating the temporal origin of HIV-1 circulating among 192 HIV-1 positive treatment-naive MSM recruited in Singapore and Malaysia between 2006 and 2012. The protease sequence data were analyzed using neighbor-joining and maximum likelihood phylogenetic reconstructions to identify transmission networks. Bayesian coalescent analysis was carried out to delineate the divergence time of each network. A total of 12 transmission networks of different sizes (3-23 MSM subjects) were identified in Singapore and Malaysia, most of which emerged after the mid-1990s. New networks continued to emerge thereafter, despite having increased access to combination antiretroviral therapy (cART) in both of these countries. Branch length analysis of the phylogenetic trees showed a relatively short transmission interval, ranged from 0.1 to 6.5 years, suggesting that HIV-1 was transmitted at great speed within these networks. Population history estimation of HIV-1 showed a trend of continuous emergence of new networks and co-existence of multiple MSM sub-epidemics from various common ancestors in the region. This is in alignment with the high HIV-1 incidence among MSM as reported across Asia, establishing the role of transmission networks in contributing to the rise in new HIV-1 infections. We believe these networks, if left uninterrupted by means of effective intervention strategies, will most likely continue to grow, resulting in sustained transmission among MSM.
Trace Elements in Toenails and Dietary Intakes among Farmers in Pasir Puteh and Bachok, Kelantan

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Abstract: Trace elements are micronutrients that are needed in small quantities to maintain the functions of human body metabolism. The aim of this study is to determine the relationship between levels of zinc, copper, selenium and chromium in toenails with dietary intakes among farmers in Pasir Puteh and Bachok, Kelantan. This cross-sectional study involved 131 farmers aged between 19 to 73 years old. Subjects were interviewed to obtain information on their demographic data and dietary intakes (7 days diet recall) using validated questionnaires. Levels of trace elements from dietary intakes were analyzed using Nutritionist Pro Diet Analysis and levels of trace element in toenails were analyzed using Inductively Coupled Plasma Mass Spectrometry. Result showed that levels of trace elements were significantly higher (p<0.05) in males (339±188 µg/L) compared to females (200±139 µg/L). The chromium levels among farmers aged between 18-40 years old (340±190 µg/L) and 41-63 years old (357±181 µg/L) were significantly higher (p<0.05) as compared to those above 63 years old (216±187 µg/L). For smoking behavior, there was a significant difference (p<0.05) for selenium levels between smokers (37.32±14.37 µg/L) and non-smokers (32.27±11.35 µg/L). A very weak negative correlation between levels of zinc, copper, selenium and chromium in toenails with dietary intakes was found with the value of (r= -0.021, p = 0.822), (r= -0.029, p = 0.756), (r= -0.033, p = 0.727) and (r= -0.146, p = 0.122) respectively. This study suggests that level of trace elements in toenails among farmers were influenced by gender, age and smoking behavior. Whilst, there was no association between levels of trace elements in toenails with dietary intakes.

Teen Hearing: Danger Ahead!

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Abstract: To determine the knowledge, attitude and behaviour regarding noise exposure among high school students in Kuala Lumpur. A self-administered questionnaire was randomly distributed to 433 students of three high schools in Kuala Lumpur (Age range= 13 to 17 years, Mean= 15.0 years, SD= 1.45 years). Of 433 respondents, 51.5% were male and 74.4% were Malay. In general, the respondents showed very poor knowledge about auditory system, noise exposure and hearing protection device, with 99.8% of them did not pass the passing marks of 80%. The score for knowledge differ significantly between races by which Indian respondents showed higher score compared to other races. However, knowledge score did not differ significantly in terms of gender and age. With regard to attitudes, the majority of respondents (95.8%) held positive attitudes and beliefs about hearing, hearing loss and hearing conservation with 90.1% were concerned on the impact of noise on hearing. Attitudes scores revealed that females were having higher scores as compared to male. Senior students were generally more concerned on the impact of noise on hearing, whereas the juniors showed more positive attitude towards preventive action in order to protect their hearing. Most respondents (98.6%) participated in at least one noisy activity. However, only 15.7% of students used hearing protection while doing so. The most common exposure (94.5%) was listening to loud music with earphones. Knowledge was significantly associated with attitude towards noise induced hearing loss and hearing conservation (p<0.05). It appears that knowledge, attitude and behaviour concerning noise and hearing loss were low among Malaysian high school students, indicating lack of understanding on the risks associated with exposure to loud sounds. Findings from this study indicate the need to establish a hearing conservation program for Malaysian school-aged children.
P1 - Effects of 1,4-Benzoquinone (1,4-BQ) Exposure in Hematopoietic Stem/Progenitors Cells Fate: Involvement of Self-Renewal and Differentiation Controlling Genes.


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Abstract: Previous reports on hematotoxic evidences and leukemogenic potential related to benzene exposure highlighted the adverse effects on hematopoiesis. Despite of the reported findings, studies concerning the mechanism of benzene toxicity on hematopoietic system affecting hematopoietic stem and progenitor cells (HSPC) fate remains unclear. This study aims to elucidate the effect of benzene exposure on the self-renewal and differentiation related genes which play fundamental role in controlling HSPC fate. Mouse bone marrow (BM) cells were exposed ex vivo to the benzene metabolite, 1,4-benzoquinone (1,4-BQ) at series of concentrations (1.25, 2.5, and 5 μM), for 24 hours. The cytotoxicity of 1,4-BQ in mouse BM cells was determined using MTT assay. The expression levels of self-renewal (Bmi-1, HoxB4, and Wnt3) and differentiation (GATA1, GATA2, and GATA3) genes were analysed using qRT-PCR. Cytotoxicity of 1,4-BQ was not seen in BM cells except at the 5 μM of exposure (p < 0.05). In contrast, up regulation in expression levels of Bmi-1, HoxB4, GATA1, GATA2, and GATA3 were remarkable following exposure to 1,4-BQ at lower concentrations (1.25 and 2.5 μM) as compared to control. Meanwhile, expression level of Wnt3 was not affected. In conclusion, 1,4-BQ at lower concentrations with non-cytotoxic effects could alter the fate of HSPC by targeting their self-renewal and differentiation properties. The role of self-renewal and differentiation controlling genes in governing the hematotoxic and leukemogenic effects of 1,4-BQ deserves further investigations.
P2 - Replication of Avian Influenza A Virus Strain H5N1 in Madin-Darby Canine Kidney Cells

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Abstract: The use of cell lines such as Madin-Darby Canine Kidney (MDCK) cell which is less likely to introduce adventitious materials in influenza vaccine production is much advocated presently. It is thus essential to understand virus replication patterns in MDCK cells prior to utilizing it in influenza vaccine production. Firstly, MDCK cells were infected with 10^-2 to 10^-12 avian influenza virus H5N1 (AIV H5N1) (5858/2004) dilutions for 24 h in order to determine its TCID50 (50% tissue culture infectious dose). The virus dilution causing 50% cytopathic effect (CPE) was used as TCID50 to infect 80-100% confluently grown MDCK cells for 0-48 h. The CPE was observed and cell death was determined at 2-h intervals. The virus-infected cells and media were collected for virus RNA analysis. The extracted total RNA was used to form the first-strand cDNA which served as template in M2 gene amplification. The PCR product was analysed and quantified on 1% (w/v) agarose gel. The results showed that the TCID50 of AIV H5N1 in MDCK cells was 10^-9 dilution. CPE was observed after 2-h post-infection and the maximal CPE was achieved at 48 h. The cell death percentage in virus infected cells showed a strong and positive correlation with the infection period (r = 1.0, n = 9, p < 0.01). The amount of M2 gene amplified from the infected media (r = 0.471, n = 9, p > 0.05) and infected cell (r = 0.73, n = 9, p < 0.05) was positively correlated with the infection period. Collectively, this implies that the virus replication increases with an incline in viral replication period. Although CPE was observed as early as 2-h post infection, M2 gene was only amplified from the infected media and cells after 48 h and 24 h, respectively. This signifies that the AIV H5N1 is pathogenic and able to cause cytopathology in host cells even at low virus load. In conclusion, this study has demonstrated that MDCK cell is a suitable system for producing influenza vaccine.
P3 - Effect Of *Hibiscuss Sabdariffa* Linn (Roselle) Extract On The Long Term Ex Vivo Maintenance of Murine Hematopoietic Stem Cells

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Abstract: Hematopoietic stem cells (HSCs) offer valuable source for cell-based therapy. Ex vivo expansion and maintenance of HSCs are crucial prior to clinical usage. However, the ex vivo expansion of HSCs faced several limitations which include inability to obtain optimal HSCs proliferation while maintaining its undifferentiated state and rapid cell loss. Antioxidant supplementation to ex vivo culture has been shown as a potential strategy to overcome these limitations. This study aims to investigate the effect of *Hibiscuss Sabdariffa* Linn (Roselle) extract on ex vivo maintenance of murine bone marrow-derived HSCs. Roselle extracts were added to the cultured mouse bone marrow cells (MBCs) at series of concentrations (0 to 2000 ng/ml) for 24, 48 and 96 hours. Cell viability was determined using tryphan blue exclusion method. Phenotype of HSCs was confirmed through immunophenotyping of surface antigen marker Sca-1. N-acetyl-cystein (NAC) was used as the comparative antioxidant. Overall, Roselle extract promotes MBCs proliferation at 24, 48 and 96 hours of culture in concentrations-independent response. Roselle at low (7.8 ng/ml) and high (1000 and 2000 ng/ml) concentrations promotes greater MBCs proliferation with significant increase (p < 0.05) in MBCs numbers throughout 96 hours of cultures. In contrast, increased MBCs proliferation was only significant (p < 0.05) at 96 hours following low (7.8 ng/ml) and intermediate (125 and 250 ng/ml) concentrations of NAC. Meanwhile, both Roselle and NAC able to maintain the survival of HSCs (Sca-1+) throughout 96 hours of culture although greater maintenance of HSCs survival was observed in NAC-treated group as compared to Roselle group. In conclusion, Roselle has the potential to be used as growth supplement for long-term ex vivo maintenance of primary cells, particularly HSCs. Further research is warranted to support the finding.
P4 - Zinc Carnosine Supress iNOS And COX-2 Expression By Inhibiting NF-κB Activation In LPS-Induced RAW 264.7 Murine Macrophages Cell Line

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Abstract: This study aims to investigate the anti-inflammatory properties of zinc carnosine (ZnC) in lipopolysaccharide (LPS)-induced RAW 264.7 murine macrophages. RAW 264.7 cells were pretreated with ZnC (6.25 – 100 μM) for 2 hours. Then, LPS (1 μg/ml) was added to the cells for another 22 hours to induce cell inflammation. Cell viability, nitrite accumulation, thiobarbituric acid reactive substances (TBARS) concentration, intracellular ROS level and protein expression level were then determined by using MTT assay, Griess assay, TBARS assay, DCFH-DA labelling assay and immunoblotting respectively. ZnC was not cytotoxic to RAW 264.7 cells up to the concentration of 100 μM. Upon induction with LPS (1 μg/ml), ZnC was able to reduce nitrite accumulation and thiobarbituric acid reactive substances (TBARS) concentration in a dose dependent manner, with significant decrement can be detected starting from 12.5 μM and 100 μM respectively. However, ZnC did not protect RAW 264.7 cells from LPS-induced “respiratory burst”. Results from immunoblotting showed that pretreatment of ZnC were able to suppress inducible nitric oxide synthase (iNOS) and cyclooxygenase-2 (COX-2) expression with concomitant inhibition NF-κB activation. Inhibition of NF-κB activation was determined by a reduction in phospho-p65/p65 ratio, with significant inhibition was detected staring from 6.25 μM of ZnC pretreatment. In conclusion, pretreatment of ZnC was able to inhibit NF-κB activation, possibly by lowering down malondialdehyde level, thus suppressing the expression of inflammatory mediators such as nitric oxide, iNOS and COX-2.
P5 - Evaluation of Antimalarial Activity of *Quassia borneensis* against *Plasmodium berghei* NK65 Infected Erythrocytes

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Abstract: Simaroubaceae is known to contain quassinoids. This study was carried out to evaluate the antiplasmodial activity of extracts of *Quassia borneensis* against *Plasmodium berghei* NK65 infected erythrocytes. Twelve different extracts obtained were named as Q1 to Q12. The antiplasmodial activity was measured using pLDH and SYBR Green I assay, with the level of parasitemia 3% and 10% respectively for determination of the concentration that inhibited 50% (IC50) of Plasmodium’s activity after 24 hours treatment at the concentration range of 1 – 10 µg/ml. In conclusion, *Q. borneensis* possess antimalarial properties where the highest activities were shown by the chloroform extracts group.

P6 - *Zingiber zerumbet* Extract Improved Paraquat-Induced Oxidative Stress in Parkinsonism Rats: Biochemical and Behavioral Study

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Abstract: Parkinson’s disease (PD) is a neurodegenerative disorder characterized by progressive loss of dopaminergic neurons in the substantia nigra (SN) of the midbrain. (PD) has been associated with exposure to environmental agents such as herbicide that are able to cause progressive loss of dopaminergic neurons. In this study, the neuroprotective effect of *Z. zerumbet* extract was tested on paraquat-induced Parkinsonism in rats. A total of 50 male Sprague Dawley rats were divided into five groups: negative control (normal saline), positive control (N-acetylcysteine, NAC 20 mg/kg+paraquat 10 mg/kg), untreated (paraquat only), 200+PQ (200 mg/kg *Z. zerumbet* with paraquat) and 400+PQ (400 mg/kg of *Z. zerumbet* with paraquat). Ethyl acetate extract of *Z. zerumbet* was given orally for 19 consecutive days and paraquat was administered intraperitoneally on day 8-12th. Both serum and fresh brain containing SN region were taken for biochemical analysis. Biochemical analysis showed that the level of oxidative stress markers (MDA and PC) in the SN homogenate for the untreated group (paraquat) was significantly higher (p<0.05) than the negative control group. Whereas, the activities of antioxidant enzymes (SOD, GPx and GSH) for the paraquat treated group were significantly lower (p<0.05) than the negative control group. Administration of ethyl acetate *Z. zerumbet* extract at the doses of 200 mg/kg and 400 mg/kg significantly (p<0.05): 1) decreased the level of MDA and PC in the SN homogenate, 2) increased the activity of SOD,GPx and GSH in the SN homogenate and serum. Behavioral observation in treated groups (200 mg/kg and 400 mg/kg) displayed a progressive reduction in tremor evidenced by their decreased in tremor score at post-injection phase. In conclusion, *Z. zerumbet* ethyl acetate extract was able to prevent oxidative stress and provides neuroprotection effects in neuronal damage induced by paraquat and can be develop as a prevention and therapy agent of neurodegenerative diseases caused by environmental toxins.
P7 - *Zingiber zerumbet* (L.) Smith Crude Extract Induce Cell Proliferation And Migration Rate of Human Dermal Fibroblast Adult Cell Line (HDF-a).

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Abstract: *Zingiber zerumbet* (L.) Smith or locally known as “lempoyang”, is well known for its therapeutic properties including anti-inflammatory activity suggesting its potential in promoting wound healing processes. This study was carried out to determine in vitro cell proliferation and migration rate using *Zingiber zerumbet* extract. The cytotoxic and proliferation activity were evaluated against Human dermal fibroblast cell line (HDF-a) using MTT and proliferation assay. The cytotoxicity was determined following 24 hours prior to the treatment of *Zingiber zerumbet* while 24, 48 and 72 hours for proliferation assay. Five different concentrations of ethyl acetate *Zingiber zerumbet* extracts (0.5mg/ml to 1.5mg/ml) were used and the absorbance was measured at 570 nm with ELISA microplate reader. The cell migration rate was determined by using scratch assay in 6-well culture plate. A small scratch was made by using 200 μl pipette tip after the cells was 80% confluent. The optimum concentration of *Zingiber zerumbet* was selected to evaluate the rate of cell migration. Images of the migrated cells were taken every 24 hours using digital camera connected to the inverted microscope. No IC50 values were observed for *Zingiber zerumbet* extract as compared to positive control, where the effect was seen following treatment with menadione, with IC50 value of 7μg/ml. HDF-a showed highest cell viability at concentration of 750μg/ml. The migration rate of HDF-a increased as compared to the control in the scratch assay. In conclusion, *Zingiber zerumbet* (L.) Smith induced the cell proliferation and migration rate of wound healing in vitro model.
Abstract: Dengue virus (DENV) is the causative agent of dengue fever (DF) and is the most prevalent mosquito borne viral pathogen in mankind. Famciclovir and Adenovir dipivoxil showed good interactions with DENV replicating enzyme in computer modeling and therefore are tested in vitro in inhibiting DENV replication. To show that the two drugs are capable of inhibiting DENV serotype 2 (DENV 2) replication in green monkey kidney cell line (VERO), MTT ((3-(4,5-Dimethylthiazol-2-yl)-2,5-Diphenyltetrazolium Bromide) and plaque reduction assay were performed. Theoretically, the replicating enzyme of DENV termed RNA-dependent RNA polymerase (RdRp) is unable to elongate a growing virus genome when famciclovir or adenovir dipivoxil is incorporated into it, thereby terminating the virus replication. VERO cells were treated with the two nucleoside analogues at intervals of 24 h, 48 h and 72 h. The IC50 value for both famciclovir and adenovir dipivoxil was found to be > 100 UM/mL. This indicates that the compounds are less likely to be toxic to VERO cells. Next, plaque reduction assay was performed to show that the two drugs were able to inhibit DENV-2 infection in VERO cells. Ribavirin was used as a control in this assay. VERO cells were infected with DENV-2 at a multiplicity of infection of 0.4. The concentrations of antivirals added to the infected cells were 1000 uM/ml, 750 uM/ml and 500 uM/ml. Virus plaques were observed and counted after 7 days of incubation. The results showed that both famciclovir and adenovir dipivoxil were able to inhibit DENV-2 replication which was implied by virus plaque reduction by 5-8% at 500, 750 and 1000 uM/ml. The finding was comparable to that of the positive control, ribavirin. Although famciclovir and adenovir dipivoxil are presently used to target DNA virus infections such as herpes and hepatitis virus their inhibition on DENV-2 infection makes them promising drug candidates for dengue virus infection as they are nontoxic in vitro and able to inhibit virus replication.
P9 - Evaluation of Anti-Bacterial Activity of Pterostilbene in Combination with Standard Antibiotics and its Anti-Inflammatory Potential in Lipopolysaccharides- Stimulated RAW 264.7 Cell

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Abstract: Pterostilbene is an analogue to resveratrol which is found in blueberries and grapes. Pterostilbene was found to have diverse pharmacological effects including antioxidant, anticancer and antiproliferation. These activities indicated that pterostilbene may possess the chemopreventive effect. Bacterial infections have been implicated in the pathogenesis of many serious inflammatory disorders. Long-term dysregulation of various pro-inflammatory genes, such as iNOS and COX-2 leads to chronic inflammation that is responsible for various pathological diseases including cancers. The purpose of this study is to evaluate antibacterial activity of pterostilbene against a wide range of clinically important gram-positive and gram-negative bacteria including Staphylococcus aureus ATCC, Streptococcus pyogenes ATCC, Bacillus cereus ATCC, Acinetobacter baumannii ATCC, Escherichia coli ATCC and Pseudomonas aeruginosa ATCC. While, the anti-inflammatory effect of pterostilbene was investigated by using lipopolysaccharide (LPS)-stimulated RAW 264.7 murine macrophages as in vitro model. The Minimum Inhibitory Concentration (MIC) value of pterostilbene was determined using broth microdilution test whereas the fractional inhibitory concentration (FIC) index value of the combined agents will be calculated to evaluate the type of interaction using microdilution checkerboard (MDC) method. The result showed that pterostilbene was active against Staphylococcus aureus ATCC 25923 (0.05 mg/mL), Eschericia coli ATCC 25922 (0.2 mg/mL) and Pseudomonas auruginosa ATCC 15442 (0.2 mg/mL) strains. MDC study showed that combination between pterostilbene and gentamicin was synergistic against Escherichia coli ATCC 25922 (FICI 0.0639) and Pseudomonas auruginosa ATCC 15442 (FICI 0.125). Effect of pterostilbene on the expression of nitrite was assessed by Griess assay and the result showed that pterostilbene reduced the expression of nitrite significantly (p < 0.05) in a concentration-dependent manner.
P10 - Comparative Analysis of Multifractal Dimension and Vessel Density of Retinal Microvasculature

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Abstract: To assess the amount of spaced filled by retinal vessels segment using automated multifractal and vessel density analysis for aging data. Two hundred right eye retinal samples (57.0% females (n=114) and 43.0% males (n=86)) were segmented using custom written software. Vessel segmentation was the process of transforming 2-dimensional colored retinal images into binary images (black and white pixels). The circular area of approximately 2.6 optic disc radii surrounding the center of optic disc was cropped. The non-vessels fragments were deleted. FracLac was used to quantify the multifractal dimension and vessel density of retinal vessels structure. Statistical analysis was performed using Microsoft Excel 2010. This study demonstrated the information (entropy) dimension, D(Q=1) was more correlated to monofractal and vessel density analysis. The information dimension, D(Q=1) showed good correlation to vessel density measurement (R²=0.6338) as compared to capacity dimension, D(Q=0) and correlation dimension, D(Q=2). D(Q=0) and D(Q=1) suggested 0.01 decreasing rate of rarefaction with each decade increase in age, meanwhile D(Q=2) suggested only 0.009 rate of rarefaction. Multifractal analysis suggested D(Q=0) > D(Q=1) > D(Q=2) in normal retinal state. The multifractal dimension value decreased with increasing scale, Q. The multifractal dimension may suggest explanation of other retinal vessel parameters such as vessel caliber, tortuosity, length-diameter ratio and bifurcation angle in addition to rarefaction. Multifractal analysis may serve as an additional geometrical measure describing the morphological changes in retinal vessels associated with increasing age.

P11 - Repeatability of a New Pterygium Redness Grading.

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Abstract: This study aimed to assess the repeatability of a new pterygium grading based on fibrovascular redness. A total of 30 pterygium images were taken using slit-lamp biomicroscopy at controlled exposure. The images graded by 28 observers as the least and the most red by 5-point scale based on benchmarked images rated by pterygium specialist. The observers must have at least 2 years clinical experience and familiar with pterygium images. An online system was developed to display the images and to collect the ratings. The extent of variation in human grading was plot based on quartile analysis. The median grading was chosen as the “Ground Truth”. The repeatability of the grading was assessed using Intra-Class Correlation (ICC) and Bland-Altman statistics. The average mean differences between the quartiles and the median ranging from 0.703 to -0.846 shows that the clinical grading of the pterygium redness images was highly repeatable. It is supported by the ICC score of 0.966, implying an excellent agreement. Clinical grading of redness images is highly repeatable. This dataset can be used as reference dataset to characterize the fibrovascular tissue and future development of automated grading software.
P12 - Edible Bird Nest (EBN) can Inhibit Influenza A Virus by Affecting Autophagy Pathway

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Abstract: Influenza A virus (IAV) is a causative agent of many worldwide epidemics with high mortality and morbidity that cause tremendous economy costs annually. This virus will invade the host cells through endocytic pathways and cause various changes in intracellular pathways. It has been seen that even a pathway like autophagy is involved in this virus life cycle to promote the virus assembly. This virus prompts the accumulation of autophagosomes by blocking the fusion of the lysosomes. Hence, this pathway can be a great target for antiviral agents. Hence, the aim of this study was to highlight inhibitory effects of Edible Bird Nest (EBN) extract against IAV infection and understand some of the molecular mechanism of action. Consequently, we have investigated the effects of four different enzyme treated EBNs against IAV and some autophagy markers. At first, the Influenza A virus (strain A/Puerto Rico/8/1934 H1N1) infected cells were treated with different concentration of these EBNs to determine the IC50 of these extracts. Afterwards, western blotting technique has been used to evaluate the autophagosome marker protein microtubule-associated protein light chain 3-II (LC3-II) in different treatments. In addition, the lysosomal activity has been determined by staining the cells with Lysotracker Red DND-99. The results demonstrated that EBN extracts in combined treatments with influenza A viruses significantly reduced the virus titer and increased the cell viability especially in post-penetration treatments (P<0.05) with IC50 range from 2.6 to 4.9 mg/ml depends on the preparation and type. Regarding the autophagy pathway, the amount of LC3-II has been significantly decreased after treatment of the infected cells with EBNs (P<0.05), which caused increasing of the lysosome activity. Accordingly, this study revealed that EBN can be an efficient antiviral agent and also showed the involvement of autophagy pathway in antiviral activity of EBN averse to influenza A virus.

P13 - Acid and Bile Tolerance, Antimicrobial Activity of Lactic Acid Bacteria (L. mesenteroides) Isolated from Tempoyak

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Abstract: Tempoyak is fermented pulp of durian fruit (Durio zibethinus). Earlier study on tempoyak in Malaysia shows that, lactic acid bacteria (LAB) are the dominant microorganisms in tempoyak. Leuconostoc mesenteroides subsp. mesenteroides (L.mesenteroides) (KF026048) was one of identified LAB from tempoyak and was investigated for possible use as probiotics. Tolerance towards high acidity environment, bile salts solution and its antimicrobial activity has been tested. The results show that, L.mesenteroides was able to tolerate acid gastric conditions (pH 1.0 – 4.0) and survive in 0.3% bile salts. In addition, L.mesenteroides also inhibits growth of food-borne pathogens such as Escherichia coli and Staphylococcus aureus. Thus, L.mesenteroides has a potential to be develop as probiotic.
P14 - Evaluation of Total Polyphenol Content and Antioxidant Capacities in Selected Malaysian Bean-Based Dishes

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Abstract: Bean consumption was associated with lower risk of chronic diseases because of the bioactive phytochemicals content including such as polyphenolic compounds which possess hypcholesterolemic, anti-atherogenic, anti-carcinogenic and hypoglycemic property. This study was carried out to determine the total polyphenol content and antioxidant capacities in six selected Malaysian bean-based dishes. The total polyphenol content was analyzed by using Folin-Ciocalteu colorimetric method, while antioxidant capacities were measured by FRAP assay, DPPH and ABTS radical scavenging methods. All of the sample dishes were bought from two different locations. Sample from each location was analyzed in triplicates. Green bean soup contained highest amount of total polyphenol content in 100g wet weight (91.41±9.01 mg GAE/100g) compared to other samples, while the lowest amount of total polyphenol content was found in tau-foo-fa (3.57±0.03 mg GAE/100g). The antioxidant capacities per 100g of food samples (wet weight) ranges from 6.34±0.45 to 161.73±29.37 μmol TE/100g (DPPH), 96.73±10.79 to 794.77±106.94 μmol TE/100g (ABTS) and 49.55±5.39 to 398.43±76.64 μmol TE/100g (FRAP). Red bean soup had showed the highest antioxidant capacities assessed from all three assays. On the contrary, tau-foo-fa possessed the lowest antioxidant capacities in DPPH and ABTS radical scavenging mechanism, while soymilk showed the lowest ferric reducing capability (FRAP) value. This study had shown that total polyphenol content in food samples was significantly associated with the antioxidant capacities in DPPH (r=0.603), ABTS (r=0.759) and FRAP (r=0.775) assays (p<0.001). In conclusion, red bean soup, green bean soup, canned kidney bean and dhal gravy contained significantly (p<0.05) higher total polyphenol content and antioxidant capacities than soymilk and tau-foo-fa. Further analysis on the specific polyphenol content in vivo bioavailability studies are needed to identify the potential beneficial effects of these foods for human health.

P15 - Anti-\textit{Acanthamoeba} Activity of Contact Lens Disinfecting Solutions against \textit{Acanthamoeba} Cysts

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Abstract: \textit{Acanthamoeba keratitis} incidence amongst contact lens wearers is increasing. The effectiveness of commercially available contact lens disinfecting solutions as anti-\textit{Acanthamoeba} is doubtful. This study investigates the anti-\textit{Acanthamoeba} activity of Complete\textsuperscript{®} and Revita Lens Ocute TM contact lens disinfecting solutions against 4 clinical isolates of \textit{Acanthamoeba} and to determine its efficacy based on the soaking time recommended by the manufacturers and soaking times of 4 hours, 6 hours and 8 hours. Cyst suspensions were prepared using \textit{Acanthamoeba} cysts grown on Non-Nutrient Agar (NNA) for 11 days at 30°C (±2°C). Two brands of commercially available contact lens disinfecting solutions were used to determine its effectiveness as anti-\textit{Acanthamoeba} agents. Cyst suspensions of each strain were tested against each contact lens disinfecting solution based on the manufacturers’ recommended soaking time, 4 hours, 6 hours and 8 hours respectively. After the soaking time, 100 μl cyst suspension of each strain was cultured onto NNA plates seeded with E. coli at 30°C (±2°C) and observed daily for 14 days under an inverted microscope to detect the presence of trophozoites. Complete\textsuperscript{®} and Revita Lens Ocute TM were ineffective at inactivating the \textit{Acanthamoeba} cysts within the testing times. Revita Lens Ocute TM was ineffective against \textit{Acanthamoeba} cysts despite claims as having anti-\textit{Acanthamoeba} property. Most commercially available contact lens disinfecting solutions are ineffective as anti-\textit{Acanthamoeba} agents.
P16 · Isolation and Characterization of Encoded Formaldehyde Responsive Gene from Dieffenbachia compacta

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Abstract: Plants have several defense mechanisms to survive in a stressful environment. Formaldehyde is one of the indoor air pollutants that can cause cancer. Ornamental plant Dieffenbachia compacta can be used as biological control pollutants in the indoor air environment. This study was conducted to isolate the genes that response for detoxifying formaldehyde in Dieffenbachia compacta. Methods used to isolate the gene are by using reverse transcription PCR (RT-PCR). A total of 735 base pairs were isolated using a set of primer from Epipremnum aureum FALDH genes. Nucleotide sequence analysis showed that the sequence similarities of 85% and 84% to the FALDH mRNA for Epipremnum aureum and Populus trichocarpa, respectively. While for amino acid, 92% similarities were found against Epipremnum aureum and Populus trichocarpa. A total of 87 putative amino acids dependent formaldehyde dehydrogenase, FALDH. The activity of FALDH indicates that this enzyme might be a part of the universal metabolism pathway shared by a variety of organisms.

P17 · Anti-Inflammatory Activity of Ethyl Acetate Extract of Zingiber zerumbet on Paraquat-Induced Parkinsonism in Sprague-Dawley Rats

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Abstract: Parkinson’s disease (PD) has been associated with exposure to environmental agents such as herbicide that are able to cause progressive loss of dopaminergic neurons in the brain. In this study, the neuroprotective effect of Z. zerumbet extract was tested on paraquat-induced Parkinsonism in rats. Fifty male Sprague-Dawley rats were divided into five groups consisted of negative control (normal saline), positive control (N-acetyl cysteine + Paraquat), untreated (Paraquat only), and treated groups, in which ethyl acetate extract of Z. zerumbet at doses of 200 mg/kg and 400 mg/kg were used. Treated groups were injected with paraquat (10 mg/kg i.p.) once daily for five consecutive days and were given with ethyl acetate crude extract of Zingiber zerumbet in water formulation orally for nineteen days. The presence of specific inflammatory markers were determined in the striatum of the brain. Protein levels in the serum and homogenate of the treated groups decreased significantly (p<0.05) at both doses of Z. zerumbet extract (200 mg/kg and 400 mg/kg) when compared to the untreated group. The results obtained from this experiment revealed that the treatment with Z. zerumbet extract at higher dose of 400 mg/kg significantly reduced the NFkB levels (p<0.05) in paraquat-induced Parkinsonism rats. Meanwhile, the levels of iNOS in both treated groups showed a significant reduction (p<0.05) compared to the untreated group. Conversely, α-synuclein levels showed a significant increase (p<0.05) in normal group and treated group at dose of 400 mg/kg compared to untreated group. Quantitative histological findings showed the neurons count were significantly higher (p<0.05) in Z. zerumbet extract treated groups compared to untreated group. These findings proved that ethyl acetate extract of Z. zerumbet has the ability to provides neuroprotection through its anti-inflammation activity on paraquat-induced Parkinsonism in rats.
P18 - *Alocasia denudata Enggler*’s Stem Juice Induce the Cell Proliferation and Migration Rate of Human Dermal Fibroblast Cell Lines (HDF-a).

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Abstract: *Alocasia denudata Enggler* or its common name in Malaysia “Keladi Candik” is a herbal plant used traditionally for treating wound. The juices made from its stem are being topically introduced to the wound. *Alocasia denudata Enggler* was known for its wound healing properties. But, there is no scientific studies regarding the effectiveness of the juice of *Alocasia denudata Enggler* in promoting cell proliferation and cell migration on the human dermal fibroblast cell lines. Therefore, this study was done to investigate the effect of *Alocasia denudata Enggler*’s stem juice on the cell proliferation and cell migration of human dermal fibroblast cell lines. Using MTT assay, the juice of *Alocasia denudata Enggler* with concentration range from 0.03125 to 2 mg/ml showed no cytotoxic effect on the human dermal fibroblast cell lines. The best concentration that gives higher cell viability was selected from 0.25 to 1.5 mg/ml and further tested for cell proliferation assay. The optimum concentration for the cells to proliferate was at 1.5 mg/ml. The rate of cell migration was compared and determined at time interval of 0, 24, 48, 72 and 96 hours. At 96 hours, the rate of cell migration was higher compared to the control where it is significantly different (p<0.05). As conclusion, the juice of *Alocasia denudata Enggler* enhance the cell proliferation and migration rate of human dermal fibroblast cell lines in wound healing process.
P19 - Cytogenetic Analysis among Train Depot Workers Exposed to Total Volatile Organic Compounds

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Abstract: Occupational exposure to toxic chemicals such as Total Volatile Organic Compounds (TVOC) from diesel engine exhaust implicates genotoxic risk. The objective of this study was to determine the DNA damage among KL Sentral depot workers exposed to TVOC by means of cytogenetic analysis. Data were obtained partially from disseminated questionnaires, and buccal cells samples were collected from a total of 27 depot workers and 10 office workers by using wooden tongue depressor. TVOC measurement was carried out by using photoionisation detector (PID). Four sampling points were selected, namely locomotive (LOCO), power generating car (PGC), refuelling of diesel, and coach. Cytogenetic analysis was done by using acridine orange (AO) staining. Micronucleus (MN) frequency as a biomarker for DNA damage was scored from 1,000 cells per sample observed under fluorescence microscope. The results showed that the overall means of concentrations for TVOC were 0.1±0.1, 0.0±0.0, 0.1±0.0, and 0.1±0.0 in LOCO, PGC, refuelling of diesel, and coach, respectively. TVOC concentration measured did not exceed the permissible level based on DOSH 2010. For the cytogenetic analysis, depot workers showed significantly higher MN (p<0.001) than the office workers. Besides that, the sociodemographic factors (e.g., age, smoking status) and the MN frequency of the depot workers were also significantly higher than the office workers. However, there was no significant difference in MN frequency between workers wearing personal protective equipment (PPE) and without wearing PPE [MN (p=0.491)]. In addition, there was a positive correlation between the working period (year) and the frequency of MN with r²=0.54, p<0.01. The result also showed that exposure to TVOC was a significant predictor of the MN frequency (p<0.001). On the other hand, smoking status did not show any significant association with the frequency of MN. These findings showed that depot workers exposed to TVOC were prone to DNA damage. Therefore, biomonitoring of DNA damage among depot workers is recommended in order to improve occupational health and safety condition in their workplace.
P20 - Mutagenic and Antimutagenic Activity of Lactic Acid Bacteria (LAB) Isolated from Tempoyak

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Abstract: Tempoyak or fermented durian is one of Malaysian traditional food. Lactic acid bacteria (LAB) are the most predominant microorganisms found in tempoyak. One of the identified LAB is Leuconostoc mesenteroides subsp mesenteroides (L. mesenteroides) (KF026048). This study was conducted to determine the mutagenic and antimutagenic activity of L. mesenteroides by using modified Ames test. Mutagenicity test of S. typhimurium strain TA98 showed the average number of revertant that caused by cells and cell-free supernatant of L. mesenteroides was 19 ± 2.0 and 39.67 ± 0.88 respectively. For S. typhimurium strain TA100, the average number of revertant that caused by cells and cell-free supernatant of L. mesenteroides was 50 ± 1.15 and 55.33 ± 3.71 respectively. Further tests were conducted to determine the antimutagenic effect of L. mesenteroides to inhibit mutations caused by 2-nitrofuroene and sodium azide. The results showed that, cells of L. mesenteroides showed higher antimutagenic effect on 2-nitrofuroene which was 28.2%. While for sodium azide the antimutagenic effect was only 18%. For L. mesenteroides culture media, the antimutagenic effect was only on sodium azide which is 72%. For mutagen binding test the percentage of mutagen binding for 2-nitrofuroene was 94.8 % and 51 % for sodium azide. Thus, L. mesenteroides isolated from tempoyak, a Malaysian traditional food had antimutagenic effect and the potential to be developed as probiotic bacteria.

P21 - Determination of Azole Antifungal Drug Resistance Mechanisms in CYP51A GENE in Aspergillus fumigatus and Aspergillus niger Clinical Isolates

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Abstract: Systemic fungal infections caused by Aspergillus fumigatus and Aspergillus niger in humans are increasing while the effectiveness of antifungal treatment is decreasing due to resistance towards antifungal drugs, especially azole drugs. The aim of this research was to investigate resistance mechanisms which involve CYP51A gene that encodes 14-alpha sterol demethylase, the target enzyme for azole drug in A. fumigatus and A. niger. Susceptibility towards itraconazole antifungal agent for clinical isolates of A. fumigatus (13 isolates) and A. niger (22 isolates) were tested through E test method. To detect mutations in the CYP51A gene, fungal DNA was extracted, PCR amplified and sequenced. Quantitative real time PCR was performed to determine over-expression of CYP51A gene in both A. fumigatus and A. niger isolates. Susceptibility test results found 3 A. fumigatus and 7 A. niger isolates as resistant with MIC values of 2.5 to 3.0 ug/mL. DNA sequencing revealed that 58.3% (7 isolates) of A. fumigatus isolates and 20% (3 isolates) of A. niger isolates contain mutations. The CYP51A gene was highly expressed in 4 isolates of A. fumigatus out of 8 isolates tested. Meanwhile all 7 isolates of A. niger that had resistant MIC values, showed higher expression of CYP51A gene compared to 5 susceptible isolates. In conclusion, mutations and over-expression of CYP51A gene are among the factors that contribute to itraconazole resistance. This finding may aid in the development of novel therapeutic antifungal agents aimed at reducing antifungal resistance.
P22 - The Cytotoxicity Assessment of the Organotin(IV) N-butyl-N-phenyldithiocarbamate Compounds in Human Leukemia Cell Lines

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Abstract: Many studies on organotin(IV) compounds have been performed and most of them showed importance characteristics of cancer chemotherapeutic agents. However, the cytotoxicity induced by organotin(IV) compounds differs from one another primarily due to their specific molecular structures. Therefore, this study was carried out to evaluate the cytotoxicity and the mode of cells death induced by the new organotin(IV) N-butyl-N-phenyldithiocarbamate compounds in Jurkat T lymphoblastic cell line (Jurkat E6.1), acute promyelocytic cell line (HL-60) and chronic myelogenous cell line (K562). The cells were treated with a series of organotin(IV) compounds for 24 hours prior to cell viability assay using MTT assay and propidium iodide. Increased phosphatidylserine exposure demonstrated that all compounds induced the strong cytotoxicity by triggering apoptosis mainly in Jurkat T lymphoblastic and K562 cells.

P23 - Low Electromagnetic Field Effects Norepinephrine Level in Brain Tissues

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Abstract: The emergence of research about the biological effects of electromagnetic field (EMF) have growing concern among researchers, however there still have controversy associated with it's harmful effects. This study was aimed to investigate the effects on the brain of rats periodically exposed to 0.1 mT EMF. A total 24 adult male Sprague Dawley rats subdivided randomly to 4 groups: 2 control groups (control group 6 hours: 6 h/day for 5 days; control group 20 hours: 20 h/day for 5 days) and 2 treatment groups which exposed to 0.1 mT EMF (6 hours treatment group [Group 1]: 6 h/day for 5 days; 20 hours treatment group [Group B]: 20 h/day for 5 days). There was a significant decrease of the pyramidal cell number for both treatment groups. The total numbers of pyramidal cells Group A was 15.18 % lower than control group 6 hours while Group B was 33.54 % lower than control group 20 hours. There was a significant decrease of the Purkinje cell number for both treatment groups, the total numbers of Purkinje cells for Group A was 11.20 % lower than control group 6 hours while Group B was 16.19 % lower than control group 20 hours. No significant difference were found between the thickness of granular layer and molecular layer in the control groups and treatment groups. Cell morphology changes can be seen in the region of cerebrum and cerebellum at histological observation for both treatment groups. A significant increase 10.71 % higher than control group norepinephrine level was observed in Group A. These results suggested that exposure to EMF can exert negative effect in rats brain tissues.
P24 - Mechanism of *Ficus deltoidea* Aqueous Extracts in Uterine Contraction

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Abstract: *Ficus deltoidea* (*F. deltoidea*) or known as Mas Cotek, is a uterotonic herb traditionally consumed by women to assist labor, to remove retained placenta and also to treat postpartum bleeding. The aim of the study was to elucidate the mechanism of *F deltoidea* in uterine contraction. Crude extracts from two different species of *F. deltoidea* were used in this study, *F. deltoidea* var. *Deltoidea* (FDD) and *F. deltoidea* var. *Angustifolia* (FDA). This study was conducted ex vivo on uterus of rats treated with either FDD or FDA extracts with increasing concentrations: from 10 to 1280 µg/ml at time intervals of 5 minutes between doses. The frequency and intensity of uterine contractions were detected and recorded via Powerlab software. Maximum contractions for both extracts were identified and the uterine strips samples at the maximum contractions were collected and homogenized in order to determine the role of prostaglandin P2α (PGF2α) in the mechanism of uterine contraction. Other than that, the expression of myosin light chain kinase (MLCK) protein and other related proteins that were involved in the mitogen activated protein kinase (MAPK) such as p38, p42/p44 were also detected via western blots. The results showed that the maximum contraction induced by FDD was at the concentration of 320 µg/ml, whilst the maximum contraction of FDA was obtained at the concentration of 960 µg/ml. Both the aqueous extracts of FDD and FDA increased the intensity of uterine strips contractions and these contractions were in parallel to the increased in PGF2α expressions. The analysis also showed that the uterine contractions involved the expression of MAPK through the phosphorylation of p42/p44 pathway. In conclusion, the *Ficus deltoidea* showed the ability to stimulate uterine contraction through the molecular mechanism of prostaglandin action.

P25 - Delayed Mortality and Morphogenetic Anomalies Induced by *Acorus calamus* Linn. Crude Extract on *Aedes aegypti* (L.)

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Abstract: *Acorus calamus* crude extract was studied for their biological activity, delayed mortality and the induction of morphogenetic aberrations in larvae, pupae and adults of *Aedes aegypti*. A dosage response line for *A. calamus* was established earlier against 4th instar larvae using WHO standard method for larval testing and sublethal concentrations (24 hours LC10, LC25, LC50 and LC80) were used against these larvae. Sublethal concentrations of *A. calamus* induced delayed mortality in larvae and pupae among the surviving larvae beyond 24 hours exposure period. Most of the larvae survived the treatment, however mortality occurred at pupal stage within the first 72-96 hours of exposure. Morphogenetic aberrations were noted in dead larvae and pupae but rare in the adults. These aberrations included elongated neck region, larvae shortened and crumpled, larvae in normal shape but jet black or partially black and freshly ecdysed pupae from larval skin remaining light or pale (albino); dying before hardening and melanization of the cuticle. These aberrations and gross morphological features were quite similar to those reported for certain insect growth regulators such as methoprene and cyromazine, and also *Bacillus sphaericus* as well as *B. thuringiensis* var. *israelensis*. The longevity of the surviving adults was not affected, but the percentage of blood engorgement activity was reduced resulting in less number of eggs oviposited by females developed from treated survivors. However, the egg hatching activity from the treated survivors was not affected. In conclusion, *A. calamus* extract causes delayed mortality and morphogenetic anomalies which should be probed further in order to further develop it as insect growth regulator product.
**P26 - Evaluation of Antimutagenic and Cytoprotective Effect of *Ficus deltoidea* Aqueous Extract**

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Abstract: *Ficus deltoidea* var. *deltoidea*, also known as mas cotek in Malay is a plant widely used in Southeast Asia as traditional medicine for diabetes, inflammation and nociception. However, antimutagenic and cytoprotective effect of this plant had yet to be discovered. In this study, we aimed to investigate mutagenicity and antimutagenicity effect of this plant with menadione using MTT assay. Our data demonstrated that *FDD* did not cause mutagenic effect on TA 98 and TA 100 strains up to 50 mg/ml. Interestingly, *FDD* showed strong antimutagenicity effect for both strains in the presence of S9 (p < 0.05). *FDD* also demonstrated remarkable protection against cell death in menadione treated cells (p < 0.05). In a nut shell, this is the first report on the antimutagenic and cytoprotection effect conferred by *FDD* \textit{in vitro}.

**P27 - Effect of Macronutrient, Fiber and Micronutrient Intakes on Anthropometric Measurements among Children Aged 10 and 11 Years in Kuala Lumpur, Malaysia: GReat-Child Trial**

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Abstract: Diet composition is a key determinant that contributes to childhood obesity. Escalating prevalence of childhood obesity necessitates the identification of modifiable dietary factors in order to improve health status. To examine the relationship between nutrient intakes and anthropometric measurements among children aged 10 and 11 years in Kuala Lumpur, Malaysia. In this cross sectional study, anthropometric data (weight, height, percentage of fat and waist circumference) and three 24-hour diet-recall were collected from 384 school children aged 10 and 11 years. The children were selected randomly from six primary schools in Kuala Lumpur. Associations between intake of specific energy-adjusted nutrients and anthropometric measurements were determined with general linear regression, adjusted for sex, race and physical activity. Mean intakes of total energy, dietary fiber, calcium, thiamine, riboflavin, niacin, folate, zinc and selenium were lower compared to the Malaysian Recommended Nutrient Intakes (2005). After confounders adjustment, BMI z-score was significantly associated with intake of carbohydrate (β=0.117, p<0.001), fat (β=0.082, p<0.01), vitamin C (β=0.058, p<0.05), iron (β=0.062, p<0.05), thiamine (β=0.102, p<0.001) and folate (β=0.088, p<0.01). The percentage of body fat showed significant association with carbohydrate (β=0.127, p<0.001) and fat intake (β=0.066, p<0.05). Waist circumference demonstrated significant correlation with carbohydrate (β=0.125, p<0.001), fat (β=0.094, p<0.01), fiber (β=0.063, p<0.05) and riboflavin intake (β=0.065, p<0.05). In conclusion, excessive macronutrients intake may increase the risk of overall and abdominal adiposity. Fiber and riboflavin may reduce the risk of abdominal adiposity. Whereas, vitamin C, iron, thiamine and folate will reduce the risk of overall adiposity. The results highlight the need to focus on fiber and micronutrients to manage childhood obesity.
P28 - Prevention of Soccer-Related Ankle Injuries in Youth Amateur Players: A Randomized Controlled Trial

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Abstract: In lower levels of play, the lateral ankle sprain is the most common time loss injury, especially amongst male youth soccer players. The aim of the present study was to evaluate the effects of an injury prevention program on the incidence of ankle injuries in male youth amateur players. Randomized controlled trial study. Fifty boys (mean ±SD: age 13.3 ± 0.4 yr; body mass index of 20.9 ± 1.5 kg/m2; stature: 1.6 ± 0.1 m) from two sport schools, with 4.4 ± 0.5 years playing experience, participated. Players were randomly assigned to either an experimental (EXP, n = 25) or a control (CON, n = 25) group. A physical exercise program designed exclusively for youth male soccer players was combined with education of athletes and coaches to increase awareness of injury risk. Over 1 year all injuries were documented monthly by physiotherapist. Complete monthly injury reports were available for 50 players. Nine ankle injuries occurred in the EXP group and 21 occurred in the CON group, corresponding to incidence rates of 0.96 and 2.26, respectively, per 1000 player hours, which equates to 57% fewer injuries in the EXP group. The incidence of ankle injuries among youth male soccer players can be reduced by implementation of an injury prevention program. Athletes need better education regarding injury prevention strategies and should include such interventions as part of their regular training.

P29 - Secondary Reinforcement to Children with Autism During Therapy Based on ABA Model

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Abstract: Applied Behavioural Analysis (ABA) is a technique that used Discrete Trial Training (DTT) to teach a variety of skills to children with autism. Reinforcement plays an important role in ABA as it increases their learning and also motivates the children. However, in ABA, the child will only receive the reinforcement if the child managed to produce the target behaviour. Many times when the child failed to receive his reinforcement, the child displayed challenging behaviour. Therefore, in this study, ABA was modified by introducing a secondary reinforcement. Secondary reinforcement was reinforcement with a lower reinforcing value as compared to the primary reinforcement. The children were divided into intervention and control group and they were taught requesting skill. The children were required to request for their favorite reinforcement with their respective target requesting behavior (TRB). Each session were recorded and evaluated at the end of the study. The results of the intervention group were positive as it shows a reduction in problem behaviors and also an increase in spontaneous request. In conclusion, the involvement of secondary reinforcement managed to improve the requesting skill and also reduce the problem behaviors of children with autism.
P30 - Exploring The Impact of Parent-Mediated Training Program Design to Support the Language Development of Toddlers Diagnosed with ASD in Malaysia

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Abstract: Parent education is now widely acknowledged as “best practice” in the treatment of children with autism spectrum disorder (ASD). This study aimed at investigating the viability and effectiveness of the Hanen More Than Words (HMTW) program for Malaysian parents of young children with ASD. Participants included 31 children (27 boys, 4 girls’ M= 34.58 months, SD= 3.67) who met criteria for ASD and their parents. There were three measurement periods: prior to recruitment (Time 1) and at 3 and 5 months (post enrollment (Time 2 and 3). The outcome measures included parents’ use of facilitative strategies; and the children’s growth in vocabulary and social communication skills. Taking into account scores at recruitment, results indicated that there are higher significant gain for ‘intervention’ group in responsive interactions, and children showed improvement in vocabulary and the number of engagements in social interaction. The parents agreed their mastery of facilitative communication increased and they provided positive feedback about the HMTW approach. The training well-supported by parents and has measurable effect on both parents’ and children’s communication skills.

P31 - Profiling the Pediatric Cochlear Implant Recipients under the Ministry of Health Cochlear Implant Program

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Abstract: The Ministry of Health (MoH) has commenced the National Cochlear Implant (CI) Program in 2008. To date, the program has implanted 205 individuals with severe-to-profound hearing losses, many of whom are pediatric recipients (71%) with prelingual deafness. This study aimed to profile the pediatric cochlear implant recipients under the MoH CI program in order to better understand the overall performance of the program. The data reported here were from 2009 to 2014, from a total of 121 case notes at all the nine satellite hospitals in the program. The nine hospitals covered all the four zones throughout the country. There were 58 males and 63 females implanted within the time period investigated. The majority was Malay (66.9%). Thirty nine of the cases reviewed (32.2%) were high risk cases and the majority of them had more than one high risk factors (46%) for permanent hearing loss. In this cohort, only 12 children (9.9%) were identified through the hearing screening program. The age of diagnosis of hearing loss ranged from 1 to 46 months with a mean age of 24.3±10.2 months. Hearing aids were fitted at the age of 4 to 46 months with a mean of 27.5± 9.9 months. The average age of implantation was 41.5±10.3 months. The mean overall length of waiting period from the first visit to the audiologist to the time when the cochlear implant was activated was 18.5±9.1 months. The results indicate that the children received their implants at a relatively late age for speech and language development. The national newborn hearing screening program is not the main feeder for the pediatric CI program under the MoH. Better structuring and implementation of the newborn hearing screening program is needed so that the age of implantation could be reduced.
P32 - Lung Function among Farmers Exposed to Pesticides in Selangor and Kelantan

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Abstract: Exposure to pesticide can cause poisoning and lung function impairment. The objective of this study is to determine the lung function status among farmers exposed to pesticides. A cross-sectional study was carried out at Tanjung Karang, Selangor and Pasir Puteh and Bachok, Kelantan which involved 90 farmers aged between 19 to 65 years old. Farmers from Tanjung Karang were selected by using purposive sampling and farmers from Pasir Puteh and Bachok by using systemic random sampling. Demographic data was obtained by direct interview using a questionnaire. The lung function of the farmers was measured by using COSMED Pony-Fx Spirometer. Results showed that the mean value of Forced Expiratory Volume for one second (FEV1) among farmers from Tanjung Karang, Pasir Puteh and Bachok were 1.95 ± 0.52 L, 2.49 ± 0.55 L and 2.44 ± 0.62 L respectively. The mean value of farmers’ Forced Vital Capacity (FVC) in Tanjung Karang was 2.54 ± 0.67 L, Pasir Puteh was 1.99 ± 0.54 L and Bachok was 2.12 ± 0.65 L. The percentage ratio vital capacity (FEV1/FVC %) were higher than 75% in all three locations. In Tanjung Karang, 57.9% of the farmers had restrictive while each 5.3% had obstructive and both restrictive and obstructive lung function. Farmers in Pasir Puteh showed that 54.1% had restrictive and 5.4% had both restrictive and obstructive lung function. In Bachok, 53.3% of the farmers showed restrictive condition. Only farmers in Bachok showed significant negative correlation (p<0.05) between lung function with age (r=-0.56) and working period (r=-0.53). This study showed that prolonged pesticide exposure can lead to the decline in lung function of the farmers.
P33 - Lung Function Status among Firefighters in Kuala Lumpur and Selangor

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Abstract: Firefighter is a profession that provides service in extinguishing fires and rescue. The dangerous work environments such as exposure to fire smoke while on duty can affect their health and cause problems in lung function. This study is carried out to determine the lung function status among firefighters that works in Fire and Rescue Station in Kuala Lumpur and Selangor, Malaysia. A cross-sectional study was conducted on 364 firefighters with minimum 2 years working experienced in fire operations and aged between 21 to 45 years old. A questionnaire on demographic data has been distributed among subjects and lung function was measured by using Cosmed Quark PFT Spirometer. Results showed that the mean value of Forced Expiratory Volume for one second (FEV1), Forced Vital Capacity (FVC) and percentage ratio vital capacity (FEV1/FVC) for firefighters were 2.99 ± 0.58 L, 3.64 ± 0.55 L, and 81.61 ± 11.46 L respectively. A total 25.6% (n=93) subjects showed abnormal lung function of which 18.4% (n=67), 6.1% (n=22) and 1.1% (n=4) of them were reported to have restrictive, obstructive and both restrictive and obstructive lung function. The mean values of FEV1 and FVC among firefighters showed significant negative correlation with age (r=−0.129, p<0.05 and r=−0.119, p<0.05) respectively. There were significant difference (p<0.05) in the mean values of FEV1 and FVC between years of service groups among firefighters. This study showed that prolonged exposure to fire smoke can lead to the decline in lung function among firefighters.
P34 - Perceived Stress among Malay Caregivers of Children with Learning Disabilites in Kelantan

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Abstract: Parents or caregivers of children with learning disabilities have been shown to experience increases in stress and greater negative caregiving consequences than those with typically developing children. The current study sought to assess the perceived stress among Malay caregivers of children with learning disabilities in Kelantan. The Malay version of Perceived Stress Scale was administered to a sample of 40 caregivers of children with learning disabilities who were registered to five Pusat Pemulihan Dalam Komuniti (PDK) in Kelantan. Higher scores indicate higher levels of stress. The data were analyzed using IBM SPSS version 22 software. The participants had mean age of 47.68 ± 9.18 years old, of whom 90% were fathers or mothers. 90% of them were married, majority were unemployed or housewives (70%) and had secondary school education (70%). Their median monthly household income was RM 900 (IQR=RM 1400) and median of financial support received was RM 150 (IQR=RM 80). The majority of them had one disabled child (85%). The mean age of their children with learning disability was 10.61± 5.60 years old. 58% of children were boy and 50% were Down Syndrome children. The mean time since diagnosis was 8.76 ± 5.11 years. The mean total Perceived Stress Scale score of the participants was 16.77± 5.74. There were no significant associations between total score and all socio-demographic variables (p>0.05). The mean total score of Perceived Stress Scale showed that the perceived stress level was in the category of slightly higher than average and health concern level was high. This result indicated that the caregivers had higher levels of stress and might increase susceptibility to stress-induced illness. Therefore, this group of caregivers need more concern by professionals as the stress not only impacts their lives but the success of their children’s development and rehabilitation.
P35 - Optimization of Digestion Methods for the Determination of Trace Elements and Heavy Metals Level in Human Hair and Nail

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Abstract: Microwave digestion method is the most reliable sample digestion method. However, the method requires expensive microwave digester automation and has relatively lower productivity. Therefore, this study aims to compare three non-automated digestion method to determine the most reliable digestion method for copper (Cu), selenium (Se), manganese (Mn), magnesium (Mg) and zinc (Zn) using ICP-MS. The three digestion methods were wet acid digestion using nitric acid (HNO3) and H2O2, wet acid digestion using HNO3 and dry washing. Certified reference material IAEA-086, hair and nail sample from 20 female students in Universiti Kebangsaan Malaysia (UKM) were analyzed. ANOVA of repeated determined results showed significant differences in the level of all elements (p<0.001) between the three methods for hair sample. For nail sample, only Cu showed no significant different of level between methods (p=0.100). Precision results showed that wet acid digestion using HNO3 and H2O2 method demonstrated the best RSD range within and between-run where the within-run RSD for all elements have less than 5% RSD except for Se. The between-run precision ranges between 6.14% and 17.96% RSD for hair and 3.53% and 11.52% RSD for nail sample. Mn and Mg of wet acid digestion using HNO3 and H2O2 method showed both good accuracy and precise measurement. The percentage recoveries of the elements are 110% and 96.9% respectively. Wet acid digestion method also showed the lowest MDL. Thus, analytical results indicated wet acid digestion using HNO3 and H2O2 procedure was the best method based on overall precision, accuracy, recovery and MDL. However, through this method, only Mn and Mg element showed the most efficient precision, accuracy and percentage of recovery.

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Abstract: Childhood obesity has been growing at an alarming rate in Malaysia and saddling health systems with a new generation of diabetes, hypertension and other obesity related illnesses. Despite the existence of numerous guidelines for obesity management, obesity is not well managed within current health systems and there remains uncertainty as to what strategies specifically comprise most effective for lifestyle interventions. The objectives of this scoping review are 1) to map the existing systematic reviews and meta analyses of childhood obesity interventions; 2) to identify the most effective strategy in treating and preventing childhood obesity. The results were used as an evidence base in the development of the H.E.B.A.T! Program. PubMed, EBSCO/CINAHL and Cochrane databases were searched for reviews on behaviour modification intervention targeting school children. The study was restricted to English language, published from 2008 to 2013. Thirteen reviews were examined and were heterogeneous in design, participants, intervention and outcomes. It was found that long-term interventions with combined diet and physical activity and a family component were linked with a significant decrease of body weight of school children. Reviews suggest that well-designed and theory and evidence based programs can be effective. Besides weight and fat loss, appropriate short and long term outcomes such as habitual physical activity, healthy eating and improved psychosocial outcomes need to be defined for measuring the effectiveness of interventions. Finally, interventions should seek to incorporate with policy and environmental changes in order to make a substantial and sustainable impact on children’s health and well-being. Therefore, the H.E.B.A.T program is developed based on behavioural capability to reduce the body fat percentage and improve lifestyle of overweight Malaysian school children.

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Abstract: The aim of this experimental study was to derive a modified equation for contact lens method in calculating corneal power after myopic laser refractive surgery. Ninety three subjects (mean age of 31.95 ± 6.18 years) who underwent myopic laser refractive surgery in IIUM Eye Specialist Clinic were recruited in this study. The accuracy of calculated postoperative corneal power for IOL power calculation using the standard contact lens method (CL) and newly-derived contact lens modified method (CLmod) equations were compared to the gold standard method-clinical history method (HM). The CLmod equation was derived by adjusting the postoperative corneal power of CL according to amount of refractive change after the laser refractive surgery. The results showed that the mean calculated postoperative corneal power using standard CL equation was significantly higher than HM equation (Mean Difference ± SD, -0.24 ± 0.62 D, p < 0.001). Fifty seven percent (57%) of the standard CL results were within ±0.50 D of HM results. The difference between calculated postoperative corneal power using standard CL and HM equations increased significantly with the amount of refractive change. The mean calculated postoperative corneal power of CLmod showed that there was no statistical significant difference compared to HM results (Mean Difference ± SD, 0.00 ± 0.34, p > 0.01). Eighty seven percent (87%) of the CLmod results were within ±0.50 D of HM results with improvement of 31% from the standard CL results. In conclusion, the CLmod equation provides more accurate calculation in determining post myopic laser refractive surgery corneal power. In near future, this modified equation can be used as an alternative equation to calculate postoperative corneal power for IOL power calculation when the preoperative data are not available.
P38 - Postural Control Influence on Upper Extremity Function among Children with Cerebral Palsy: A Literature Review

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Abstract: Performance of upper extremity function and movement sequence are influenced by postural control. Motor disorders lead to deficits in postural control, which subsequently may lead to postural instability of children with cerebral palsy (CWCP). This will limit their upper extremity activity performance. Management strategies help to support and enhance the CWCP’s upper extremity function so they may engage with the activities of daily living. The purpose of this paper is to review previous literature on the influence of postural control towards upper extremity function. Literature searches were conducted in various electronic databases, including ProQuest, Science Direct, Springer Link, Sage, Wiley Online Library, and Google scholar using specific key terms. Search terms included children with Cerebral Palsy; postural control; postural adjustments; upper extremity function; reaching and sitting and from references of retrieved articles. 19 journal articles published between 2000 and May 2015 were found. Most search results consisted of experimental studies, while others consisted of reviews, case studies, and cross-sectional studies. In conclusion, postural control has a major influence on upper extremity function. It is important to highlight the importance of both factors to the CWCP parents or caregivers, as understanding and awareness is still inadequate in the community. Hence, a study is needed on the awareness of the postural control influence on upper extremity function among caregivers, as well as examining the implementation of management strategies in community settings.

P39 - Dietary Intake and Risk of Metabolic Syndrome among Overweight and Obese Children Aged 9 to 11 Years in Kuala Lumpur: Findings from Juara Sihat Study


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Abstract: The prevalence of obesity and metabolic syndrome are increasing among children. However, little is known about the relationship between dietary intake and risk of metabolic syndrome among children in Malaysia. To determine the influence of dietary intake on metabolic risk factors among school children aged 9 to 11 years in Kuala Lumpur. A total of 55 overweight and obese children participated in this study. Anthropometric measurements included weight, height and waist circumference. Dietary intake was obtained using three-day dietary record. Blood pressure was taken and blood was drawn after an overnight fast to test for glucose and full lipid profile. Participants were stratified into 3 groups according to the number of risk factors (0, 1–2, ≥3) associated with the metabolic syndrome according to the diagnostic criteria of the International Diabetes Federation (2007) for children. Obese children showed significantly higher body fat percentage (p<0.05) and poorer biochemical profile (p<0.05) than overweight children. Metabolic syndrome was found to be present in 8.6% of the obese children and none among the overweight children. HDL level was positively associated with fat (β=0.298,p<0.05), sodium (β=0.429,p<0.01) and iron (β=0.356,p<0.05) intake. Waist circumference was inversely associated with dietary fiber intake (β=0.075,p<0.05). Dietary fiber intake is significantly higher in participants with 0 risk factors compared to those with ≥3 risk factors of metabolic syndrome (p<0.05). No other significant associations or differences were found between dietary variables and the individual components of the metabolic syndrome among the three groups. Excessive intake of macronutrients, especially fat may increase the percentage of body fat and waist circumference. Children with abdominal obesity have increased risk for developing metabolic syndrome. These findings suggest that metabolic health of children can be improved by increasing dietary fiber intake, such as fruits and vegetables.
P40 - Level of Spasticity, Sensory Deficit and Upper Limb Dysfunction among Stroke Survivors Attending Community-Based Rehabilitation.

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Abstract: Spasticity and sensory deficit are common impairments affecting upper limb function following stroke. Review of literature found that, on an average, 42% of stroke survivors have spasticity and up to 85% of them present with somatosensory deficits. In Malaysia, the number of stroke survivors has been on a rise over the past decade. However, little is known about post-stroke impairment and upper limb dysfunction among this population in the country. To examine the level of spasticity, sensory deficit and upper limb dysfunction among stroke survivors undergoing community-based rehabilitation. A cross sectional study was conducted among twenty one stroke survivors at a local community stroke rehabilitation center (11 males, 10 females; mean age = 66, SD 7.89 years). Tardieu scale and Nottingham sensory assessment were used to assess spasticity and sensory perception, respectively. Upper limb dysfunction was identified using Jebsen-Taylor hand function test and the upper limb items of Stroke specific quality of life scale. Up to 61.9% of the stroke survivors had spasticity, majority scored 1 i.e. ‘slight resistance throughout movement’ based on the Tardieu scale. As much as 33.3% of the survivors had tactile sensation impairment and 23.9% had proprioception problem. Majority of the stroke survivors demonstrated difficulty in opening a jar (53.3%), putting on socks (50%) and zipping a zipper (46.7%), while a third of the survivors experienced writing (33.4%) and buttoning problems (30.0%). The most difficult upper limb tasks to be completed by the survivors were writing followed by stacking objects, feeding using spoon and picking up small objects. Level of spasticity, sensory deficit and upper limb dysfunction are significant among stroke survivors in our community. These results will assist in the planning of effective intervention for greater upper limb recovery by rehabilitation professionals managing post-stroke patients.
P41 - The Influence of Personal Protective Equipment (PPE) on Farmers’ Health in Kelantan, Malaysia

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Abstract: Agriculture industry is associated with hazardous pesticides that caused health problems among farmers. The use of personal protective equipment (PPE) is important to reduce the risk of pesticides exposure. The objective is to study the influence of PPE on farmers’ health in Kelantan, Malaysia. A cross-sectional study was conducted using the questionnaire on usage of PPE that was administered to systematically random selected farmers in Bachok, Tumpat and Pasir Puteh, Kelantan. Their health status was determined using parameter such as body mass index, blood pressure, glucose, cholesterol, uric acid, liver function, lung function and nerve function. A total of 270 farmers were interviewed, of whom 82.6% were males and 17.4% were females. Their mean of ages were 53.13±11.12. More than 80.0% reported wearing long pants, long sleeve shirts, hats and long boots while 78.9% wearing goggles, 69.6% wearing masks and only 50.4% wearing gloves. However, only 44.8% reported wearing proper hats, 80.0% wearing rubber gloves while 20.0% of them wearing cotton gloves. About 67.0% reported wearing more than 6 PPE gears during spraying pesticides. After performing chi-square analysis of health status depending on PPE status, around 70.0% farmers wearing cotton gloves have hypertension (p<0.01) and 82.0% wearing hats have hypertension (0<0.05). Over 83.0% farmers wearing masks have normal glucose level (p<0.001), 78% wearing long sleeve shirt have normal glucose level (p<0.05), 69.0% wearing masks have normal uric acid level (p<0.001), and 65.0% wearing long boots have normal uric acid level (p<0.05). The poor and misuse of PPE caused health problems among farmers in Kelantan. An intervention is important to provide knowledge on the appropriate PPE usage and improve their health status.

P42 - Measuring Outcome of Vision Rehabilitation on Visually Impaired Children using Universiti Kebangsaan Malaysia Activities of Daily Living Index (UKM-CHILD)

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Abstract: The objective of this study is to determine outcome of vision rehabilitation on visually impaired children using UKM-CHILD. Forty visually impaired children (15.33±1.56 years) underwent standard low vision assessment and vision rehabilitation. UKM-CHILD was used to measure the ability to perform activities of daily living (ADL) at pre and post rehabilitation. The UKM-CHILD is a tool to measure ADL comprising of self-reported questionnaire and actual ability to perform ADL (performance measure). Outcomes of vision rehabilitation showed significant improvement in distance visual acuity (pre: 0.86±0.27 logMAR; post: 0.78±0.21 logMAR; Wilcoxon: z=-2.23, p=0.026) and score of ADL (pre: 1.72±0.83 logit; post: 2.12±1.25 logit; Wilcoxon: z=-5.129, p<0.0001). This study suggests that UKM-CHILD can be used to measure the outcome of vision rehabilitation and can be utilized by health care professionals in their practice.
P43 - The Comfort Level of Non Contact Tonometer: Hand-Held Versus Automated among Adult

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Abstract: The aim of this study was to determine the comfort level between Non Contact Tonometer (NCT): Hand-held versus automated. Thirty subjects with age range from 20 to 33 years old were asked to evaluate the comfort level of NCTs. The IOP measurements were taken with the Pulsair Intellipuff on right eye and Tonoref II on left eye. The subjects were asked to evaluate the comfort level of the first air puff and the average air puff of each of the instrument and chose the NCT that they preferred to use. There was significant difference of comfort level between Pulsair Intellipuff and Tonoref II (p<0.05). There was no significant difference between the first air puff with the average air puffs of each instrument (p>0.05). There was no significant difference between the IOP readings of Pulsair Intellipuff and Tonoref II. Mean±SD of Pulsair Intellipuff and Tonoref II were 13.17±1.98 mmHg and 13.12±1.98 mmHg respectively. There was a significant difference between Pulsair Intellipuff and Tonoref II. Comfort level of Pulsair Intellipuff was slightly lower compared to Tonoref II.

P44 - Daily Stress in Caregiving for Older Person with Dementia from the family caregivers perspective

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Abstract: The role of caregiver basically is to look after the dementia elderly besides managing their own activities. However at certain stage being a caregiver and at the same time managing own life and family is challenging, the challenges include unprepared being caregiver, uncertain emotional feeling, and roles changes. Caregivers are at risk for psychological problems including depression and anxiety. Roles within the family tend to be adjusted and adapted at the elderly illness progress (Bridges, 1998). The effects of the dementia on caregivers often overlooked and his/her needs not properly met. As people live longer, many are finding themselves becoming caregivers for dependent older adult. Those people who are care-giving for older adult report that the job is stressful and full of challenges. Therefore, this qualitative study investigates the stressors in daily life from the perspective of the family caregivers of older person with dementia at stage mild to moderate. Ten family caregivers who accompanied the person with dementia for follow up at Memory Clinic Hospital Tuanku Jaafar Seremban were interviewed. Semi structured open ended question was used to guide the individual in-depth interview. Interview data was transcribed and analyzed using thematic analysis. Results revealed four sources of stress in daily life of the participants. These includes care-giving routine task, personality and behavioral changes shown by care recipient, health related to care recipient functional regressed, and care recipient safety home environment. The results of the study shown that the family caregivers really need more information regarding the appropriate techniques and strategies in order to manage the daily routine of older person with dementia especially managing self-care activities, behavior problem and reducing stress.
P45 - Comparison of Patient Discomfort between Digital Sensor and X-ray Film during Periapical (PA) Intraoral Radiography Procedure.

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Abstract: The purpose of this study is to assess and compare patient discomfort with the use of digital sensor (CMOS based sensor) and conventional x-ray film in Periapical (PA) dental radiography examination. The digital sensor provides better image quality, faster image acquisition and better storage options. However, issue arose on the discomfort level limit its usage thus requires further investigation. The study used an experimental approach using intervention study with pre and post test to evaluate patients’ feedback. A total of 130 patients whom involved with either PA maxillary central incisor or premolar procedure were selected via systematic random sampling. A Visual Analog Scale (VAS) scoring and close ended questions were used to assess and compare the level of discomfort and its specific causes after the patient experienced both image receptors. Non-parametric test (Wilcoxon matched paired sign rank test) and Chi-squared were used to analyse the data. A higher discomfort level was identified in digital sensor during PA maxillary premolar. However, there was no significant difference in discomfort level between both IR during PA maxillary central incisor (p-value = 0.06) and premolar procedure (p-value = 0.14). During PA central incisor procedure, 77.8% participants highlighted the film’s sharp edge caused the discomfort. Rigid sensor (29.4%), sensor thickness (29.4%) and huge size (29.4%) are among the causes highlighted with the use of digital sensor. While in PA premolar, x-ray film's sharp edge was the major reason (57.6%) with the use of x-ray film while the sensor’s huge size was the major causes (40.4%) with the use of digital sensor. Both image receptors were recommended to be used in clinical work as the discomfort level was categorized between mild and moderate discomfort. Additional steps should be considered to improve patients’ comfort with the use of both IR.

P46 - Sanitation Level of Food Contact Surfaces in The Universiti Kebangsaan Malaysia College Cafeterias

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Abstract: The cleanliness of the food contact surfaces is a representation of a food premise’s sanitation level. The presence of bacterial contaminants on food contact surfaces may increase the risk of foodborne diseases through cross-contamination events. This study aimed to determine the level of sanitation on food contact surfaces of 12 college cafeterias in Universiti Kebangsaan Malaysia (UKM) and its correlation with the cafeteria’s premise grade. The presence of selected indicator and pathogenic microorganisms (coliiform, Escherichia coli, Staphylococcus aureus, Salmonella spp., and Shigella spp.) on the food contact surfaces were also determined. Food contact surfaces that were sampled consists of cutting boards, knives and utensils (cutleries, bowls and plates) that were used for ready to eat food. Cafeteria’s premise grade was obtained based on the food premise inspection report by Pusat Kesihatan UKM. Overall results showed that the sanitation level of food contact surfaces in UKM college cafeterias was average. The highest total plate count reading obtained was 3.39 ± 1.12 log CFU/cm2 (mean±std) and was significantly higher than the standard guideline (1 log CFU/cm2). Used knife shows the highest reading of microorganism counts (2.42±1.046 log CFU/cm2) as compared to other types of food contact surfaces sampled. Escherichia coli was only detected at 1 cafeteria whereas Salmonella spp. was found at 7 college cafeterias. The correlation between the number of microorganisms found on food contact surfaces and the cafeteria’s grade was very weak (rs = 0.02 p> 0.01 and N = 12). This study demonstrated that more improvements need to be done to increase the sanitation level of the cafeterias, thus assuring the safety of the food for consumers.
P47 - Comparison Of Printed And Multimedia Materials On Falls Risk Awareness Among Community Dwelling Older Adults

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Abstract: Awareness regarding falls risk among older adults is important as part of falls prevention management. However, there is limited information regarding the type of material that is effective in increasing falls risk awareness among older adults. The objective of this study was to compare the effectiveness of falls risk awareness using printed and multimedia materials among community older adults. Fifty two participants who participated in this study were divided into two groups. Falls risk awareness knowledge was provided to the groups either using printed material in a booklet form (n=26) or multimedia material (n=26). The Falls Risk Awareness Questionnaire (FRAQ) was used to measure knowledge of falls risk before (week-0) and after (week-4) intervention. Data was analyzed using analysis of variance to compare within and between subject effects. The results showed significant between subject effect on FRAQ (p=0.03) but there was no significant effect within group. Increased falls risk awareness (3.7%) was demonstrated in the multimedia group. Using multimedia material was more effective compared to printed material in improving fall risks awareness among older adults.

P48 - An Exploratory Study on Life review/Life Storybook for Older Adult with Dementia Living in Community

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Abstract: Dementia is a major illness related to older adults. One of the popular psychosocial interventions for older adults with dementia is a life review process with life story book. Therefore, the present study aimed to explore the usefulness and acceptability of life review process/life story book among older adults with dementia in Malaysia. Using multiple case study design, 5 older adults with mild to moderate dementia were recruited from the community. The severity of dementia was determined using the Clinical Dementia Rating (CDR) scale. In this individual approach, Life review was conducted using Life Review Experiencing Form (LREF) for 8 weekly one-hour sessions. Meanwhile, life storybook was gradually developed with the progress of the life review process. The book was given to participants after post intervention assessment. Quantitative measures such as Mini-mental States of Examination (MMSE), Geriatric Depression Scale- Short Form (GDS-SF), Quality of life-Alzheimer’s disease (QOL-AD) and Perceived Stress Level (PSS) were conducted at pre, post and 6 weeks after having the life story book. In addition, qualitative feedback regarding life review process and life storybook was recorded from participant and their caregivers. The results indicate that there is positive trend of changes on the quantitative measures on each construct. The caregivers and participants appreciate the life storybook as a tangible product of the life review process. On average, the mood of the older adult with dementia was alleviated during each life
P49 - A Cross Sectional Study On Lung Function Status Among Malaysian Farmers

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Abstract: Pesticides are frequently used in agriculture sector which associated with lung function impairment. In Malaysia, there are limited numbers of studies on lung function status among farmers with pesticide exposure. A cross sectional study was conducted using validated questionnaires. Lung function was measured using Spirometer. Mean value of FEV1 among farmers in Cameron Highlands, Bachok, Tumpat and Besut were 2.20±0.88L, 2.09±0.54L, 2.12±0.50L and 2.43±0.56L respectively. Mean value of FVC from Cameron Highlands, Bachok, Tumpat and Besut were 2.97±0.93L, 2.81±0.65L, 2.88±0.62L and 3.12±0.66L respectively. Higher percentage of farmers with abnormal lung function were observed in Cameron Highlands (45.1%) and Bachok (44.7%) compared to farmers in Tumpat (32.7%) and Besut (29.6%). Restrictive lung problems were recorded in Bachok (25%), Tumpat (22.4%) and Besut (25.9%) whilst 16.2%, 6.1% and 3.9% showed obstructive lung problem respectively. Combined restrictive and obstructive lung problems were identified among 6.6% farmers in Bachok and 4.1% in Tumpat. Mean values of FEV1 and FVC of male farmers were significantly higher as compared to female farmers. In Besut, farmers who are smoking showed significantly higher mean value of FVC compared to non-smokers. Negative correlation between mean values of FEV1, FVC and FEV1/FVC% with duration of farming activities were also recorded in all studied areas. This study showed that farmers who are exposed to pesticides are at greater risk for lung function impairment. Further study is required to establish the mechanism of toxicity.
P50 - DNA Integrity and Health Status Among Firefighters in Peninsular Malaysia

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Abstract: Firefighter is one of the high-risk jobs and exposed to hazards including chemical exposure, trauma and thermal injury. Fire smoke can affect human health and their DNA integrity. Therefore, this study is carried out to evaluate the DNA integrity of firefighters that works in Fire and Rescue Station of four zones in Peninsular Malaysia. A cross sectional study was conducted on 220 firefighters representing South, North, East and Central zone who involved in fire operations. Questionnaires on demographic data were distributed among subjects and DNA integrity was determined using an Alkaline Comet Assay. The mean value for percentage of DNA in tail and tail moment of firefighters 12.073 ± 5.619 and 1.129 ± 0.7745 respectively. The result showed significant different between percentage of DNA in tail (p<0.05) and tail moment (p<0.05) with cholesterol group. There is significant negative correlation. The mean value for percentage of DNA in tail of firefighters in South, North, East and Central zone were 11.808 ± 2.06, 8.835 ± 2.288, 16.10 ± 7.279 and 10.727 ± 5.169 respectively whilst the mean value for tail moment were 0.844 ± 0.236, 0.535 ± 0.164, 1.758 ± 1.029 and 1.241 ± 0.463 respectively. The result showed significant different of the mean value of percentage DNA in tail between year of service groups in East zone (p<0.05) and significant difference of the mean values of the tail moment between cholesterol group in South zone (p<0.05) and North zone (p<0.05). There were significant positive correlation between percentage DNA in tail and tail moment with BMI status (r= 0.234, p<0.05) and (r= 0.354, p<0.01) respectively. The percentage of DNA in tail were found to be significantly positive correlation with systolic blood pressure in South zone (r= 0.074, p<0.05). This study showed that prolonged exposure to fire smoke can lead to the decline in DNA integrity and affect the health status among firefighters.
P51 - Immunomodulatory Activity of Mahanimbine from Murraya koenigii (Curry Leaf) on LPS-Induced Raw 264.7 Macrophages

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Abstract: Murraya koenigii (curry leaf) that contains carbazole alkaloids possess various biological activities such as antitumor, antimicrobial, antioxidantive, antidiabetic and antiinflammatory. Mahanimbine is one of the carbazole alkaloid that has been isolated from curry leaves. This study was conducted to evaluate the immunomodulatory activity of mahanimbine on LPS-induced RAW 264.7 macrophages. The effect of mahanimbine on cell viability was evaluated by MTT assay and nitric oxide concentration was detected by the Griess reaction. The release of IL-1 and TNF-α by activated RAW 264.7 cells was measured in the culture supernatants using ELISA kit. At the tested concentrations, the compound did not decrease the cell viability and did not cause the cytotoxicity. Mahanimbine showed significant increase in TNF-α production. However, the compound could not demonstrate any changes in NO and IL-1 production. The findings provide new insights for the immunomodulatory potential of mahanimbine and might support the application of curry leaves in complementary and alternative medicine.

P52 - Correlation Between Stereopsis and Colour Vision in Normal and Colour Defective Subjects

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Abstract: To determine the correlation between stereoeuity and total error score (TES) in normal and colour defective subjects aged between 11-50 years. A total of 117 subjects with normal colour vision and 24 subjects with colour defects participated in this research. The procedure for this study started with the visual acuity measurement, refraction, slitlamp biomicroscopy and fundus examination. The recruited subjects then performed a screening colour vision test using Ishihara plates and a diagnostic colour vision test using the Farnworth-Munsell 100 Hue. The arrangement made by the subjects were recorded and plotted in the FM 100 Hue form. The total error score was then calculated. Stereoeuity test was done on each subject using the TNO plates and results were recorded in ‘second of arc’. The mean age of colour normals and colour defective subjects was 27.99 ± 10.98 and 28.33 ± 10.99, respectively. Pearson correlation showed that there was a significant correlation between stereoeuity and total error score for normal subjects (r = 0.193, p = 0.037) and colour defective subjects (r = 0.431, p = 0.035). The linear regression equation for colour normal subject was: Stereoeuity = 0.094(TES) + 59.5. The linear regression equation for colour defective subject was: Stereoeuity = 29.9 + 0.188(TES). However, an independent t-test showed that there was no significant difference in the mean stereoeuity of both normal subjects and colour defective subjects. There is significant correlation between stereoeuity and colour perception in both colour normal and colour defective subjects.
P53 - A Market Survey of Contact Lens Prescribing Trend in Malaysia of Year 2014

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Abstract: Contact lenses are one of the rapidly changing areas in the optical practice and it is a recognition that had to be constantly improved. This survey was done to study the contact lens prescribing trends in optical practice in Malaysia for the year 2014. Questionnaires were randomly sent to the registered opticians and optometrists who are practicing in optical practice from the registry of the Malaysian Optical Council. Practitioners were to record details of the recent 10 patients fitted with contact lenses in their practice. Data for each lens fitted was categorized in demographic data, lens material, designs of lenses, lens modality, number of days worn per week and care system prescribed by the practitioners. IBM SPSS Statistic Version 22 (Chicago, IL, USA) and Microsoft Excel 2010 were used to perform the statistical analysis. Descriptive statistic was used to illustrate the distribution of the data. Practitioners in Malaysia were found to prescribe mostly soft lenses (93%) with a majority percentage of 44% of silicone hydrogel type and monthly disposable lens type. The most commonly prescribed care regime for contact lenses is multipurpose disinfecting solution (93%). The contact lens market in Malaysia was influenced greatly by the younger generation of wearers (mean age: 29.5±10.6 years). We found that the soft contact lens of silicone hydrogel type, monthly wear modality and multipurpose solution were most prescribed in Malaysia for year 2014.

P54 - A Pilot Study: The Quality of Life (QoL) with Multifocal Contact Lens Wear

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Abstract: This study investigated the quality of life (QoL) and the comfort of lens wear in multifocal contact lenses among presbyopes. Eleven presbyopic subjects who were not multifocal contact lenses wearer had completed the study. Subjects were fitted with a pair of multifocal contact lenses (Iotrafilcon B) based on the manufacturer’s guideline. Subjects had a mean age of 50.18±5.56 years old. A questionnaire to assess the QoL impact of refractive correction (QIRC) questionnaire was given to the participants before contact lenses were fitted and after 2 week of multifocal contact lens wear. Aftercare visit was scheduled after 1 week of wearing the lens and the comfort ratings of lens wear was assessed with the Contact Lens Dry Eye Questionnaire (CLDEQ-8) 1 week after the aftercare session. IBM SPSS Statistics Version 22 (Chicago IL, USA) was used to analyze the data. The habitual correction overall QIRC score was 52.75±5.18, while total QIRC scores after wearing multifocal soft contact lenses was 46.90±6.72. The 2-tailed paired-t test comparing the overall habitual correction QIRC score and the overall QIRC score after wearing the multifocal soft contact lenses showed a statistically significant decrease after wearing the multifocal contact lenses (p<0.05). The Wilcoxon signed rank test within subscales in QIRC questionnaire between baseline and wearing the multifocal contact lenses showed statistically significant decrease in score in “happiness” and “able to do things” subscale (p<0.05). Only 1 out of 11 subjects had a symptomatic CLDEQ-8 score of more than 25. Pearson correlation between the total scores of the QIRC and CLDEQ-8 was weak (r=0.275) and statistically insignificant. New wearers were comfortable but have a decreased QoL with multifocal contact lens wear compared to their habitual correction. Managing patients’ expectations when prescribing these lenses is important to ensure long term wearing success.
P55 - Different Germanium Dopant Concentration and the Thermoluminescence Characteristics of Flat Ge-Doped Optical Fibres

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Abstract: The influences of elevated germanium concentration on the thermoluminescence characteristics of a novel form of fabricated flat optical fibre were examined. All the samples were irradiated with two nominal photon energies (6 MV and 10 MV) and average gamma ray energy of 1.25 MeV. Flat fibres with 10% mol Ge concentration provided the superior TL yield compared against that of 6% and 8% mol Ge-doped optical fibres for both 6 MV and 10 MV energies. Interpretation of the results has been aided by study of the glow curves, revealing in particular new generation of defects in the flat fibres, due to strain-generation at the collapsed surfaces. The strain defects represent deep-energy defects.

P56 - Physical Activity and Cardiovascular Risk Factors Among The Employees Of University Kebangsaan Malaysia

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Abstract: Meeting physical activity guidelines is associated with decreased risks for cardiometabolic diseases. The aim of this study was to determine the association between moderate-to-vigorous physical activity (MVPA) and cardiometabolic risk factors among the employees of Universiti Kebangsaan Malaysia in Kuala Lumpur. A cross sectional sample of apparently healthy 71 employees consisted of 30 males and 41 females were recruited for this study. MVPA was objectively measured using the ActiGraph GT3X+ triaxial accelerometer during three working days and one weekend day. Cardiometabolic risk factors such as waist circumference, blood pressure, blood glucose and lipid levels were assessed. Findings showed that the average time spent in MVPA was 18.86 ± 13.69 min/day which did not meet the physical activity recommendation of at least 30 minutes of MVPA per day. Only 10.3% of the study participants met the MVPA recommendation. Contrary to MVPA, the time spent in sedentary activities compared to younger ones (median=13.51, IQR=13.81) (H=8.01, p<0.05), as well as those who took public transport to work (median=14.91, IQR=16.19) in contrast to those who drove (H=8.84, p<0.05). About 79% of the participants ± 13.64 cm respectively. Mean values for total cholesterol (6.20 ± 1.22 mmol/l) and low density lipoprotein (LDL; 4.27 ± 0.15 mmol/l) were higher than normal, whereas the values for high density lipoprotein (HDL; 0.97 ± 0.04 mmol/l) were lower than normal. Lower waist circumference and systolic blood pressure, as well as higher HDL levels were reported in those who travelled with public transport to work, compared to those who drove. There were no significant associations observed between MVPA and cardiometabolic factors. This study demonstrates that a majority of the study participants spent more than an average of 8 hours a day being inactive. Those who recorded higher MVPA by taking the public transport to work showed lower cardiometabolic risks, indicating that being physically active is indeed beneficial for cardiometabolic health.
P57 - Influence of Body Weight, Height and Body Mass Index on Intraocular Pressure and Optic Cup-to-Disc Ratio
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Abstract: The aim of this study was to investigate the influence of body weight, height and body mass index on intraocular pressure and optic cup-to-disc ratio (CDR). A total of 60 subjects aged between 19 to 27 years old participated in this study. Body mass index (BMI) was calculated based on subject’s weight and height. Intraocular pressure was measured with CT.80 Computerized Non-Contact Tonometer and CDR was obtained from Canon CR-2 PLUS Digital Retinal Camera measurement. Results showed that the mean intraocular pressure was 15 ± 2.57 mmHg. The mean CDR for horizontal (CDR-H) and vertical (CDR-V) was 0.46 ± 0.12 and 0.42 ± 0.11 respectively. There was no statistically significant correlation between height and intraocular pressure (Spearman ρ = 0.009, p = 0.945), CDR-H (Spearman ρ = 0.135, p = 0.249) and CDR-V (Spearman ρ = 0.114, p = 0.386). There was no statistically significant correlation between body weight and intraocular pressure (Spearman ρ = 0.005, p = 0.973), CDR-H (Spearman ρ = -0.066, p = 0.616) and CDR-V (Spearman ρ = -0.010, p = 0.942). There was no statistically significant correlation between BMI and intraocular pressure (Spearman ρ = 0.081, p = 0.538), CDR-H (Spearman ρ = -0.172, p = 0.190) and CDR-V (Spearman ρ = -0.082, p = 0.535). In conclusion, body weight, height and body mass index do not influence on intraocular pressure and optic cup-to-disc ratio.

P58 - Dry Eye Disease in Visual Display Terminal Users among Service Department Staff Hospital Kuala Lumpur
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Abstract: Dry eye disease (DED) is a multifactorial disease of the tears and ocular surface that could cause numerous ocular problems. The Visual Display Terminal (VDT) users are at risk of DED due to decreased blinking rate and consequent increase in the rate of tear evaporation. This study aimed to determine the incidence of DED among VDT users in Service Department Hospital Kuala Lumpur (HKL) using McMonnies Dry Eye Questionnaire (MDEQ). Eighty staff from Service Department HKL participated in this study. The MDEQ distributed was self-administered. The results were analysed using t-test (comparing female to male participants) and ANOVA (between age groups). 67 (84%) out of 80 staff returned their MDEQ questionnaire. Participants aged between 20 to 62 years old (mean age=33.79±10.20) with male participant were 19 (28.4%) and 48 were female participants (71.6%). Incidence rate of dry eyes obtained was 19.4%, in which 12 cases were female (92.3%) and 1 case was male (7.7%). Female participants had significantly higher MDEQ scores (10.23±4.86) compared to male participants (7.32±3.96) (p<0.05). We investigated mean MDEQ scores trends by looking at the ages broken into broad age categories: under 25 years, between 25 to 45 years and above 45 years. The analysis revealed increased mean MDEQ scores as the age increased. However, no significant difference detected between age groups (p=0.27). Higher mean MDEQ scores were found following increase hour of VDT usage with less than 2 hours (6.70±4.72), 2 to 4 hours (9.00±10.23) and above 4 hours (9.94±4.16) although the findings were not statistically significant (p=0.14). 19.4% of the sampled Service Department HKL staff was diagnosed of having the DED with significantly higher mean score in female participants. The MDEQ mean score were also found to be higher in older age groups and with longer VDT usage hours.
P59 - Mammography with Reduced Compression, Anxiety and Pain

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Abstract: Mammography is the gold standard for breast screening and early detection of cancer. Women are discouraged due to pain experienced during compression hence detection of breast cancer is in the late stages despite availability of mammography facilities. To encourage women to come forward for screening, a study was done to determine the effects of reduced compression force on pain, anxiety and image quality using digital breast tomosynthesis (DBT). A prospective study was done using random sampling on 130 women with standard and reduced (50%, 60%, 70%) compression force. A validated questionnaire of 20 items on anxiety level and a verbal description of lateral oblique projection of both breast was done using the standard but only the cc projection of one breast was done with reduced compression. Two independent radiologists evaluated the images using image criteria score and%, 5% of image quality. Two independent radiologists scored the standard and reduced compression with a 10% difference between standard and reduced compression for both radiologist. Minimal compression force reduced the anxiety and pain level without compromising the image quality hence women would be encouraged to do screening for breast cancer.

P60 - Impact of simulated astigmatism on academic performance in children

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Abstract: The functional impact of uncorrected astigmatism in children is not well established, particularly with regard to academic performance. This study investigated the impact of simulated bilateral astigmatism on academic-related tasks before and after sustained near work in children. Twenty visually normal children (mean age: 10.8 ± 0.7 years) completed a range of standardised academic-related tests with and without 1.50 D of simulated bilateral astigmatism. The astigmatic error was induced using a positive cylindrical lens while maintaining a plano spherical equivalent, and was administered in a randomised order. Performance was assessed before and after 20 minutes of sustained near work, during two separate testing sessions. Academic-related measures included a standardised reading test (the Neale Analysis of Reading Ability), visual information processing tests (Coding and Symbol Search subtests from the Wechsler Intelligence Scale for Children) and a reading-related eye movement test (the Developmental Eye Movement test). Each participant was systematically assigned either a with-the-rule (WTR, axis 180°) or against-the-rule (ATR, axis 90°) astigmatic simulation to evaluate the influence of axis orientation on any decrements in performance. All outcome measures performance were significantly impaired by both simulated bilateral astigmatism (p<0.001) and sustained near work (p<0.001), however, there was no significant interaction between these factors (p>0.05). Simulated astigmatism led to a reduction of between 5% and 12% in performance across the academic-related outcome measures, but there was no significant effect of the axis (WTR or ATR) of the astigmatism simulation (p>0.05). Simulated bilateral astigmatism impaired children's performance on a range of academic-related outcome measures irrespective of the orientation of the astigmatism. These findings have implications for the clinical management of non-amblyogenic levels of astigmatism in relation to academic performance in children. Correction of low to moderate levels of astigmatism may improve the functional performance of children in the classroom.
P61 - Shared Book Reading Practices by Mothers with Young Children

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Abstract: Evidence strongly suggests that shared book reading helps develop young children's language and literacy skills. However, variation in book-sharing practices exists across families from different cultural groups which may influence children's participation in book-sharing practices or other literacy activities. This study was conducted to explore book-sharing practices among toddlers and Malay mothers. It focused on the nature of home reading environment, maternal perceptions and both maternal and toddlers' behaviours. 100 Malay mothers who had a child between the ages of one to three years were recruited and they completed a short questionnaire. Data collected from the questionnaire was descriptively analysed. The results showed that most of the mothers reported carrying out book-sharing practices with their toddlers (n=96, 96%). Majority of them had positive perceptions on book-sharing practices with their toddlers and they are neutral in perceiving difficulties. Further investigation found that many of them started book-sharing practices with their toddlers at the age of more than one year old. They will carry out book sharing activity with their toddlers multiple times a week (n=56, 58.3%) at no specific time reported. They were reported to own less than ten books (n=57, 59.4%). 55.2% mothers were found to take their toddlers to the bookstore once in several months. The maternal behaviours need to be improved as was no highly consistent facilitative behaviours demonstrated by them. Meanwhile, the toddlers were reported to actively participate in book-sharing practices. The findings provide an insight into book sharing practices among mothers and that specific parental training for book-sharing practices might be required to facilitate language development of children.

P62 - Intra-rater Reliability and Inter-rater Reliability of Measuring Hyperextension of Metacarpophalangeal Joints

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Abstract: Hyperextension of metacarpophalangeal joint (MCPJ) is one of the most difficult joint motions to measure. This cross-sectional study examined three methods of measuring MCPJ hyperextension of finger in order to determine each method's intra- and inter-rater reliability. The three methods are: 1) volar measurement using a Stainless Steel Finger Small Joint Goniometer, 2) lateral measurement using a Plastic 6” Goniometer, and 3) length measurement using a ruler (metric ruler portion of plastic goniometer), followed by a trigonometric calculation. Volar and lateral measurements are commonly used in clinical practice. Ruler method is a newly developed method, where length of finger was used for angular calculation based on trigonometric principle. It is not currently being used in clinics. The study measured the active range of motion of MCPJ of subject's index and little fingers. The study recruited 28 healthy subjects, i.e., 26 females and two males. The average age was 24.22 years old (SD: 2.72, range: 18-31 year old). MCPJ hyperextension of these subjects were taken by two investigators, i.e., Investigators A & B. Results supported that both volar and lateral measurements have significant intra- (r=0.52-0.78, p<0.05) and inter-rater reliability (r=0.44-0.74, p<0.05), except for the first attempt using lateral method on index finger (r=0.33, p=0.09). While the ruler method only showed significant intra-rater reliability (r=0.55-0.65, p<0.05), except for Investigator B during the second measurement on the little finger (r=.48, p=.07). It is recommended that practitioners use either the volar or lateral measurements consistently and not interchangeably with each other. The utility of ruler method in clinical practice however requires more in-depth investigation.
P63 - Differences in Attitudes of Health Care Workers towards Suicidal Patients: A Comparison between Psychiatric and Non-Psychiatric Workers in Malaysia


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Abstract: Health care workers are important gatekeepers for suicide prevention as nearly half of completed suicide patients sought treatment from health care services before their last attempt. This research explored the attitude of health care workers towards suicidal patients, between Psychiatric and Non-Psychiatric departments in Malaysia. This is a nationwide study among health care workers (n = 448) from five randomly selected public hospitals. Seven departments for each hospital were selected purposively: Psychiatric (n = 69); Medical (n = 60); Emergency and Trauma (n = 67); Paediatric (n = 54); Surgery (n = 56); Obstetrics and Gynecology (n = 61); Orthopedics (n = 53); and others (n = 24). A validated self-administered questionnaire was used. Descriptive analysis and Chi-Square test were conducted. Health care workers from Psychiatric department are less likely to agree that suicide is a selfish behavior (62.3%) compared to Non-Psychiatric health care workers (79.4%; \( \chi^2=9.46, p<.01 \)). They are also less likely to agree that suicide attempters are usually trying to get sympathy from others (65.1%) compared to other departments (67.8%; \( \chi^2=4.21, p=.04 \)). This shows Psychiatric workers may hold a less moralistic attitude towards suicide victims. Interestingly, less Psychiatric workers agree that suicide attempters are usually mentally ill (42%) compared to others (67.8%; \( \chi^2=16.79, p<.01 \)), and that suicide is difficult to handle and requires specialist care (79.4%) compared to others (88.4%; \( \chi^2=4.16, p<.05 \)). This may be due to assessing suicidal individuals as having coping skill deficiencies rather than being mentally ill. Finally, more Psychiatric workers agree that suicide attempters may try again (82.6%) compared to Non-Psychiatric workers (64.7%; \( \chi^2=8.51, p<.01 \)). This demonstrates that Psychiatric workers have better understanding in managing suicide attempters. There is a need to provide emphasis on managing suicidal patients in mental health module for the training of health care workers.
P64 - Reduced Vision with Refractive Errors of Indian Schoolchildren in Kuala Lumpur, Malaysia

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Abstract: The purpose of this study is to assess the reduced vision and refractive errors of Indian schoolchildren in Kuala Lumpur, Malaysia. A vision screening was conducted on 749 Indian school children aged from 7 to 18 years old. Reduced vision is defined as vision of 6/12 and worst while refractive errors are defined as the following: myopia: −0.50 DS and above, hyperopia: +2.00 DS and above and astigmatism: -1.00 DC and above. The analysis is performed in the reduced vision school children only. In the examined schoolchildren, about 13.6% (n = 102) had reduced vision of 6/12 and worst. Among those, 64.7% (n = 66) has myopia, 2.0% (n = 2) has hyperopia, 32.4% (n = 33) has unexplained reduced vision and 1 has keratoconus. About 27% (n = 28) has astigmatism and among those, 89.3% (n = 25) is combined with myopia. The reduced vision with refractive errors of myopia and astigmatism is common visual problem occurred in this study. Corrective glasses are needed to prevent unnecessary failure at school, and visually dependent society and community in the future. Vision screening is an effective strategy to seek appropriate refractive error referral and management.

P65 - Brain Activation in Stroke Patients during Motor Task: An fMRI Study

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Abstract: There is presence of the damage in the primary motor cortex and other motor pathway components after stroke. The damage in these brain areas can lead to certain common neurological ailments such as motor function deterioration, depending on the degree of motor pathways impairment. There are many research been carried to study the recovery and restorative processes occurring in the brain after stroke, however, remained incompletely understood. This study is conducted to determine the activated brain areas during the simple motor task among the stroke patients using functional Magnetic Resonance Imaging (fMRI). Maximum hand grip motor task is performed in the designed block paradigm, which consisted 12 alternate cycles of active block and rest block. The hand grip strength on the pneumatic pressure gauge were measured and recorded. From the result, there is overall reduced activation in the ipsilesional (contralateral) hemisphere during the performance of motor task by stroke subjects. Yet, motor task by stroke subjects activated the similar motor regions as healthy participants but to a larger extent, particularly in the unaffected hemisphere. This result showed that there is presence of increased reliance on these motor areas represent an important component of motor recovery.
P66 - Comorbidity and Geriatric Syndrome among Malaysians Elderly in Malaysia

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Abstract: Comorbidity and geriatric syndrome among older adults need to be assessed as it lead to disability and are causes of cognitive decline and mortality worldwide. Objective: A large scale prospective study was carried out to determine the prevalence of comorbidity and geriatric syndrome among the aging population in Malaysia. Method: A total of 2,322 older adults which consisted of 1114 men and 1208 women were successfully recruited in Malaysia. This study was carried out among respondents of 60 years old and above using comprehensive interview based questionnaires. Comorbidity was present in an individual experiencing two or more diseases or illnesses such as hypertension, hyperlipidemia, diabetes mellitus, stroke and arthritis. In addition, among the geriatric syndrome assessed in this study was constipation, poor appetite, incontinence, vision or hearing problem, chewing difficulty and history of fall. Results: The highest prevalence of comorbidity was hypertension (50.3%), followed by hyperlipidemia (30.2%), diabetes mellitus (26.1%) and arthritis (25.0%). The prevalence of hypertension was higher in women (27.9%) as compared to men (22.4%). Meanwhile, the highest prevalence of geriatric syndrome was fall (19%) followed by vision/hearing problem (12.6%), incontinence (9.8%) and constipation (8.7%). Women (11.7%) was reported to have a higher prevalence of fall as compared to men (7.3%) [p<0.05]. Conclusion: The most common comorbidity and geriatric syndrome among respondents were hypertension and falls, respectively. There is a need to determine the risk factors of these conditions in order to formulate effective preventive strategies.

P67 - A Review on Bone Mineral Density and Mammographic Breast Density as Dependent Risk Factor for Breast Cancer

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Abstract: Breast cancer is a type of cancer which can cause fatality if early treatment is not received by the women. Breast cancer had become the number one killer among women in their menopausal stage. Mammogram has been used in early detection of breast cancer worldwide. Mammographic breast density (MBD) reflects fat, which are the dark areas seen on mammograms and stromal plus epithelial tissues which are the white areas on mammograms. Bone mass density (BMD) reflects a person’s bone health status. BMD is acquired using Dual-energy X-ray absorptiometry (DEXA). The objective of this study aimed to systematically identify and evaluate evidence of association between MBD and BMD for prediction of breast cancer. A systematic search of four different databases, which include Ebscohost, ScienceDirect, PubMed and Wiley Online Library was conducted through May 2015, along with a manual search of reference lists from relevant studies. The principles outcome measures were articles on females with and without breast cancer related to bone and breast density. Data were extracted using a standardized form, and validated for accuracy by the secondary authors. From 147 search results, a total of nine journals were identified relevant to bone density and breast density in predicting breast cancer. Results shows that there were three articles mentioned a strong positive association between MBD and BMD for prediction of breast cancer whereby five articles mentioned a contrary results. It is conclude that there is currently insufficient evidence to recommend that BMD is a risk factor of breast cancer. Future research and reporting methods is required.
P68 - The Cognitive Measures with Types of Games in Ipad® Among University Students

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Abstract: In these modern days, digital games have found potential ways in clinical care which influence the therapeutic methods and patients rehabilitation. This study was aimed to identify the relationship between psychophysiological and cognitive measures with types of games in iPad®. This cross-sectional study involved 50 students from Faculty of Health Sciences, UKM. The types of games used were Asphalt 7 and Cut the Rope for action and strategy genres respectively. Cognitive function assessed from median reaction time (MRT), correct and wrong answers through Determination Test (DT) via Vienna Test System. Results showed that there was a significant difference in MRT (t=5.861, p<0.001), correct answers (t= -4.205, p<0.001) and wrong answers (t= -2.994, p=0.004) of before and after playing the strategy games. The cognitive measures were also compared according to means in before and after the action game plays. Results showed there was a significant difference between before and after the action game play in MRT (t= 7.653, p<0.001), correct answers (t= -7.446, p<0.001) and wrong answers (t= -4.558, p<0.001). Meanwhile, there was a significant difference in means of MRT of before and after playing the strategy games between gender (F= 31.045, p<0.001), course of study (F=25.269, p<0.001) and year of study (F= 17.915, p<0.001). There was also a significant difference in MRT before and after playing the action games between gender (F= 53.195, p<0.001), course of study (F= 46.288, p<0.001) and year of study (F= 15.455, p<0.001). Cognitive assessment before and after playing games for both strategy and action games showed a significant difference between MRT, correct and wrong answers (p<0.05). In conclusions, this study suggests that usage of iPad® games may alter cognitive function and may be used as therapeutic tool in cognitive rehabilitation. Further research in this area is needed especially to determine the effect of long time usage of iPad® games on individuals.
P69 · Fatigue and Its Influence on Quality of Life among Adults with Neuromuscular Diseases

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Abstract: In spite of the significance of fatigue as a commonly reported symptom among people with neuromuscular disease, little is known about its impact on quality of life of this population. The aim of this study was to determine the severity of fatigue, and its influence on quality of life among adults with neuromuscular disease in the community. This was a cross sectional survey involving 42 adults with various neuromuscular disease, mean age 38.52 (SD 12.1). The participants provided self-report of fatigue and quality of life based on checklist of individual strength-fatigue (CIS- subjective fatigue) index and short form health survey-12 (SF-12) in a standardised questionnaire. Data was analysed descriptively and using inferential statistics with the use of statistical package for social sciences (SPSS) software version 20. Sixty four percent of the participants reported severe fatigue (CIS- subjective fatigue score ≥ 35), with mean fatigue score 35.60 (SD 8.8). SF-12 score was low for all domains especially the physical functioning, role in physical activities and general health domains. There was a significant negative association between fatigue and quality of life (p < 0.05). Fatigue alone contributed to 17% of reduction in the quality of life of the participants. The level of fatigue is significant and affects quality of life among adults with neuromuscular disease in our community. Education on how to overcome or minimise fatigue may assist this population in improving physical and mental function, and eventually gained better quality of life.
P70 · Cytotoxicity and Genotoxicity of *Canarium odontophyllum* Miq. (Dabai) Stem Bark Extracts in Human Colorectal Cancer Cell Line HCT116

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Abstract: Current chemotherapeutic agents clinically used in treating colorectal cancer, one of the most common deadly cancers in Malaysia, often produces various degrees of adverse effects in patients. Generally, in an attempt to develop alternative chemotherapy with minimal side effects without damaging healthy tissues, many studies recommended the use of botanical products to prevent or inhibit progression of malignant diseases. Hence, this study aims to assess the cytotoxic and genotoxic effect of extracts from stem bark of *Canarium odontophyllum* Miq. (‘dabai’ from Sarawak) against human colorectal cancer cell line HCT116. MTT assay was used to determine the IC50 values of the aqueous, methanol, and acetone extracts of the stem bark at concentrations ranging from 12.5 · 200 μg/ml. The findings showed that acetone extract exhibited the highest cytotoxic effect against HCT116 cells compared to the other two extracts, when treated for 24, 48 and 72 hours. Treated at the same hours, acetone extract showed no cytotoxicity in human colon fibroblast cell line CCD-18co, with normal proliferation of cells. Mode of cell death assessment using Annexin V-FITC/PI labelling assay revealed that the primary cell death by acetone extract in HCT116 cells was via apoptosis after 48 hours treatment. Alkaline comet assay employed in HCT116 cells exposed to acetone extract at IC10 and IC25 values (low dose) for 30 minutes showed significant DNA damage with tail moment of 6.187 ± 0.718 A.U and 7.877 ± 0.142 A.U respectively. In conclusion, acetone extract from stem bark of *C. odontophyllum* has high potentiality to be developed as a chemotherapeutic agent against colorectal cancer, whilst sparing the normal cells unharmed.
P71- Assessing the Smoking Habits, Factor Leads to smoking Continuity and Impact of Pictorial Health Warning Labels on the Different Level of Smoker’s Knowledge in Secondary School

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Abstract: Smoking trend in Malaysia have shown an increase trend of 46.5% as reported in 2013 and smokers were smoked as early as age of 18 years old with number of cigarettes smoke daily is 11. As part of the effort in reducing the prevalence of smoking, Malaysia Government had introduced pictorial warning label on the cigarette pack as well as evaluating the impact of pictorial warning label on cigarette pack among the secondary school students. 287 secondary school students in Manjung district completed the self-administered questionnaire of which 128 of them were identified as smokers and start to smoke the age of 12. The most reported factor of smoking initiation is ‘trying for fun’ (35.9%) followed by ‘stylish’ and ‘stress reliever’ (28.9% respectively). Most of the smokers have identified ‘Home’ as their favourite place of smoking and they found that it is either easy or difficult to refrain smoking from this place (41.8%, p>0.05). They also reported to smoke more after their lunch and dinner of which 58.5% significantly found to smoke less when take coffee/tea during lunch and 43.1% smoked without taking coffee/tea during dinner (p<0.05). They were no significant predictors of smoking continuity (Nagelkerke R2 = 0.291, p>0.05). Mean knowledge score on smoking health effects were found significantly higher among the non-smokers in comparison to the smokers (49.67± 32.9 and 44.07 ± 28.43 respectively). Most of the smokers identified as excellent knowledge were found more likely to quit smoking when they see the health warning labels (48.5%); reported that the warning label have caused them to stop from having cigarette (33.3%) and make them think about the health risks (50.0%). This study suggest that empowerment of knowledge on smoking-related health risk among the adolescent is necessary and introduction of graphic warning label have potential to lower smoking intention.
P72 - Determination of Total Phenolic, Antioxidant Content, and Polyphenols Compounds in Tropical Fruit Juices in Malaysia

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Abstract: Tropical fruits are valuable source of natural phenolic antioxidants, which was known to have beneficial health promoting properties. This study was aimed to determine total phenolic, antioxidant and nutritional contents in each juice extracted from tropical fruits available in Malaysia such as guava, pomegranate, and roselle calyx. Total phenolic content (TPC) in these juice were estimated using the Folin-Ciocalteu reagent, while antioxidant capacity value was estimated by comparing different assays such as 2,2-diphenyl-1-picrylhydrazyl (DPPH) and 2,2-azinobis (3-ethyl-benzothiazoline-6-sulfonic acid) (ABTS) methods. TPC in every 100 ml fresh juice extracted from guava, pomegranate and roselle juices were 150.09 ± 30.88, 74.19 ± 8.59, and 59.03 ± 2.86 mg gallic acid equivalents (GAE), respectively. DPPH antioxidant activities in all three juices were 92.91 ± 0.51 % (guava), 71.15 ± 4.24% (pomegranate), and 76.25 ± 5.03% (roselle). Highest free radical scavenging activity was reported in guava compared to roselle and pomegranate juice extracts. ABTS assay antioxidant activity value for guava, pomegranate, and roselle juice extracts were 425.01 ± 48.99 uM Trolox equivalents (TE)/ml, 257.96 ± 5.09 uM TE/ml, and 189.60 ± 9.55 uM TE/ml, respectively. Guava juice extract exhibited higher antioxidant activities compared to pomegranate and roselle calyx. Proximate analysis showed that guava contained highest protein content (0.33 ± 0.03%) while pomegranate has lowest content (0.02 ±0.05%). However, pomegranate has slightly higher carbohydrate content (8.25 ± 0.06%) than guava juice. Roselle has lowest carbohydrate content and calories among all the three juices studied. All of these findings indicated that bioactive compounds from guava, pomegranate and calyx of roselle juices may be potential resources for the development of nutritious food product containing high antioxidant content. Combination of these three fruit juices may provide a novel mixed tropical juice with high antioxidants which are beneficial towards health.
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