This is the official journal of the Postgraduate Medical Education Society of Hospital Ipoh (Pertubuhan Pendidikan Perubatan Lepas Ijazah Hospital Ipoh) and the Clinical Research Centre Perak (CRC Perak), Hospital Raja Permaisuri Bainun. The recent change in name reflects the wider coverage and representation of the journal of the region.

Perak medical journal is a registered journal with an International Standard Serial Number (ISSN) issued by the National Library of Malaysia. All articles published, including editorials and letters, represent the views of the authors and not necessarily those of the Editorial Board of the Ministry of Health.
All manuscripts submitted to the journal should be in accordance with the "Instruction to Authors" (printed on the last page of the journal) and submitted to the address listed below:

The Clinical Research Centre Perak (CRC Perak), Raja Permaisuri Bainun Hospital, 30400 Ipoh, Perak. Tel: +609-2955646, Fax: +609-2454547

They should be prepared according to the Uniform Requirements for Manuscripts Submitted to Biomedical Journals.

GENERAL POINTS

The journal is interdisciplinary and inter-professional. It is intended to provide an avenue for all categories of medical staff in the region of Perak and east al-fert, to publish research work carried out. It also serves as a forum to discuss clinical and epidemiological issues of interest from different points of view. Research articles, reviews, clinical practice and opinion articles (including dissenting views) are all welcome.

- All material submitted for publication is assumed to be submitted exclusively to the journal unless otherwise stated.
- All authors must give their written consent to publication.
- All manuscripts must be submitted in electronic form, postmarked on Microsoft Word, emailed to the Editorial Board (editorial@gmail.com)
- If necessary, the pages, tables, figures, and references will be numbered in the text.
- Before all abbreviations, the journal encourages the use of 90% confidence intervals whenever appropriate statistical analysis permits.
- Although the names, addresses, telephone numbers and e-mail addresses of the author to whom correspondence should be sent
- Authors may be requested to produce the raw data on which the manuscript is based.
- Manuscripts received will be acknowledged. Those not accepted for publication will not be returned.

FINANCIAL SUPPORT

The Perak Medical Journal is published by the Perak Medical Society. The society is responsible for the editorial and publication process of the journal.

REFERENCES


FOOTNOTES

1. Additional information on the uniform requirements may be obtained from the editorial offices. The journal also encourages the use of 90% confidence intervals whenever appropriate statistical analysis permits.

2. Authors may be requested to produce the raw data on which the manuscript is based.

3. Manuscripts received will be acknowledged. Those not accepted for publication will not be returned.

FINANCIAL SUPPORT

The Perak Medical Journal is published by the Perak Medical Society. The society is responsible for the editorial and publication process of the journal.

REFERENCES


FOOTNOTES

1. Additional information on the uniform requirements may be obtained from the editorial offices. The journal also encourages the use of 90% confidence intervals whenever appropriate statistical analysis permits.

2. Authors may be requested to produce the raw data on which the manuscript is based.

3. Manuscripts received will be acknowledged. Those not accepted for publication will not be returned.
EDIToRIAL
1. Health System Research: Improving Patients and Health System Outcomes (Special Focus on Children)
   Amar-Singh HSS, Sondi Sararaks

ABSTRACTS FOR INTERVENTIONAL STUDIES

10. A Randomized Comparative Study of Helmet CPAP Versus Facemask CPAP in Acute Respiratory Failure
    Adi Osman, Siti-Hafsah Salleh, Nik-Azlan Nik-Mohammad

MEDICAL RESEARCH

11. Knowledge and Willingness of District Hospital and Health Clinics Staffs in Research Registration Pre and Post
    NMRR Training Workshop
    Shoen-Chuen Chiew, Norsarlizna Mat-Sari, Siti-Maisarah Mohd-Muksin

PAEDIATRICS

12. Exploring Malaysian Parents’ Plans on Sleeping Arrangement with Their Newborn
    Noor-Azmatulakma Abdul-Aziz, Noor-Shahizan Abdul-Razak, Nurhidayatun Johari, Norazra Mohamad, Roswati Ghazali,
    Chee-Tao Chang, Amar-Singh HSS, Pavithra Shunmugam, Haymalatha Rajagam

13. Empowering Neonatal Staff Nurses to Interpret Radiographs
    Zuzainee Baharudin, Habsah Saad, Xiu-Xing Kum, Siti-Noor Ibrahim, Sharifah-Khalilah Ismail, Wai-Keat Chung, David
    Chee-Tao Chang, Chii-Chii Chew, Netia Jeganathan, Haema Shunmugajaranoo, Amar-Singh HSS, Sridalila Mohd-Noor

14. Improving the support of neonates post discharged from NICU or SCN
    Norasmanah Mt-Isla, Noor-Hazilah Che-Nordin, Norfariza Mustapha, Kalpana Muniandi, Harvinderjit Kaur, Amar-Singh
    HSS, Sharon Linus Lojikip, Nor-Fatin-Zulaikha Kharudin, Jia-Min Lai, Haymalatha Rajagam, Pue-Siah Chin

SURGICAL

15. Knowledge and Practice of Breast Cancer Screening Among Female Healthcare Workers in a District Specialist
    Hospital
    Noorsidah Md-Yusoff, Nurul-Ain Mohd-Saad, Shoen-Chuen Chiew, Aida-Farhana Yusoff, Huda Zambry

ABSTRACTS FOR OBSERVATIONAL STUDIES

COMMUNITY HEALTH

16. Are Our Young Children Cared for Safely by Caregivers at Shopping Complexes?
    Nadhirah Mohd-Zahid, Nurul-Atirah Yahya, Nor-Salihah Mohd-Zaini, Noorain Sulong, Nursyamimi Abidin, Suziliana
    Awang, Chee-Tao Chang, Suria Junus, Amar-Singh HSS, Shylieathy Arumugam, Norshazila-Julia Mohd-Shafie

17. Electronic Screen Time of Two-Year-Old Children in Malaysia
    Azalialah Ibrahim, Nor-Azreen Lazim, Noor-Syamsiah Aziz, Rabiatul-Adawiyah Ishak, Rusmalina Mohd-Ruslan, Sri-Devii
    Raveendran, Thilagavathy Appalasamy, Suria Junus, Amar-Singh HSS, Derrick-Kor-Jen Nga, Norshazila-Julia Mohd-
    Shafie

18. Escalator Safety among Children
    Musani, Hasni-Adha Ibrahim, Chii-Chii Chew, Kamilah Dahian, Amar-Singh HSS, Norshazila-Julia Mohd-Shafie

19. Exploring the Prevalence of Helmet Usage among Students Arriving to Schools by Motorcycles in Malaysia
    Siaw-Huey Law, Agiladiswari Karnagaran, Shi-Yin Ng, Jaya Letchumy, Mohammad-Yazid Halit, Kavita-Jetly, Netia-
    Jeganathan, Ju-Ying Ang, Amar-Singh HSS, Derrick-Kor-Jen Nga, Norshazila-Julia Mohd-Shafie

20. Parent-Teenager Communication in the Digital Era
    Nurhusna Sahidin, Diyanah-Muhammad Razi, Rohazrin-Abdul Ranee, Akmanizam Zainuddin1, Suhagan Saaid, Nur-Fatin
    Zulaikha, Arvinder-Singh HS, Norshazila-Julia Mohd-Shafie, Amar-Singh HSS, Lina Hashim

    Crystal Hue-Ven Tan, N Latja Nadeson, Halimatul-Saadiah Marzuki, Noraini Abdul-Aziz, Noor-Azura Hasan-Basri, Wan-
    Sifahudddeen Wan-Hambali, Hooi-Shoo Yeap, Nor-Aizura Zulkifli, Pavithra Shunmugam, Kavita-Jetly Jagjit-Kumar-Jetly,
    Amar-Singh HSS, Bee-Sim Chua, Norshazila-Julia Mohd-Shafie

DENTISTRY

22. Unerupted Permanent Maxillary Central Incisors in Developing Dentition among Primary School Children in the
    Kinta District
    Yen-Pei Chan, Shanthini-Devi Subramaniam, Suhailiza Saharudin
DERMATOLOGY
23. **Use of Shared Care and Routine Tests in Follow-Up After Treatment for Localised Cutaneous Melanoma**
   Wei-Yin Lim, Robin M Turner, Rachael L Morton, Marisa C Jenkins, Les Irwig, Angela C Webster, Mbathio Dieng, Robyn P M Saw, Pascale Guitera, Donald Low, Cynthia Low, Katly JL Bel

FUTURISTIC MEDICINE
24. **Common Medical Applications (Apps) Used Among Doctors at a Regional Referral Hospital**
   Derrick Nga Kor Jen, Netia Jeganathan, Lionel Chia, Arvinder-Singh HS, Suria Junus, Nor-Aizura Zulkifli, Chii-Chii Chew, Amar-Singh HSS

GERIATRIC
25. **Prevalence and clinical implications of drug-drug interactions in older people**
   Danijela Gnjidic, Wei-Yin Lim, Fiona Stanaway, Kristina Johnell, Johan Fastbom, Fiona M Blyth, Vasi Naganathan

MEDICINE
26. **Common Pathogens and Their Antibiotic Resistance Pattern among Patients with Simple Urinary Tract Infection (UTI) in Outpatient Settings of Two District Hospitals - A Pilot Study**
   Li-Yuan Lee, Sook-Ling Yeoh, Hon-Meng Loke, Shoem-Chuen Chiew, Boon-Jie Chan
27. **Comparison of Two Clinical Case Definitions in Detecting Overweight and Obesity Among Registered Nurses in a District Specialist Hospital**
   Pei-Nee Teh, Shoem-Chuen Chiew, Sheila Gopal-Krishnan, Ee-Lee Yap, Fauziah Yusof, Rastidah Abdul-Manan, Mathavi Santhrasegaran, Roszimah Ismail, Hazira Abdul-Kadir
28. **Efficacy Of Squaric Acid Dibutylester In Treating Alopecia Areata: A Review Of 11 Cases**
   Tick-Sheng Ang, Jyh-Jong Tang
29. **The Intention to Disclose Medical Errors among Doctors in a Referral Hospital in North Malaysia**
   Arvinder-Singh HS, Abdul Rashid

NURSING
30. **Patients’ Experiences at the Intensive Care Unit of Three Tertiary Hospital in Malaysia**
   Suzilawati Mohamed-Ariffin, Nitaya Pinyokham, Chiraporn Tachaudomdach

OPHTHALMOLOGY
31. **Prevalence of Fundus and Macular Optical Coherence Tomography (OCT) Findings among Dengue Inpatients in a Regional Referral Hospital**
   Mee-Ai Loh, Mei-Fong Chong, Umali-Kalthum Md-Noh, Hong-Bee Ker
32. **Prevalence of Misdiagnosed Potential Sight Threatening Disorders by Primary Care Practitioners Identified in a Tertiary Referral Hospital in Kinta District, Perak**
   Kah-Joon Eng, Hong-Kee Ng, Mei-Fong Chong
33. **Surgical Outcome of Vitrectomy among Adults with Proliferative Diabetic Retinopathy**
   Kai-Chi Yeo, Cheng-Feng Chew, Widad Md-Yusof, Moharanas Ratanam, Wan-Hazabah Wan-Hitam

OTORHINOLARYNGOLOGY
34. **Endoscopic Cochlear Implant: Literature Review and Current Status**
   Philip Rajan, Hui-Mon Teh, Narayanan Prepageran, Tengku-Izam Tengku-Kamalden, Ing-Ping Tang
35. **Surgical and Functional Outcomes of Cochlear Implantation in Post-Lingual and Cross-Over Patients; First 5-Year Review of the Malaysian National Cochlear Implant Programme**

PAEDIATRICS
36. **Birth Prevalence of Microcephaly in Malaysia**
   Kavita-Jetty, Amar-Singh HSS, Chee-Kheong Chong, Jeyaseelan Nachiappan, Hoong-Phak, Thiagar Nadarajaw, Irene Chee
37. **Evaluation of Pharmaceutical Care Issues in Paediatric Critical Care of a Tertiary Referral Hospital in Perak, Malaysia: A Cross Sectional Study**
   Nurfaridilla Ferdaos, Rosnani Hashim, Nurul-Adilla-Hayat Jamaluddin, Amar-Singh HSS, Chii-Chii Chew, Sze-Ni Khooh
38. **Evaluating the Quality of Post-Venipuncture Care among Admitted Neonates with Neonatal Jaundice in a Regional Referral Hospital**
   Kashthuree Balakrishnan, Yogeswary Pachaiappan, Noorhasha Mohamed-Safie, Norfaiza Zainal, Arvinder-Singh HS, Ju-Ying Ang, Xin-Jie Lim, Suria Junus, Kim-Kea Kho, Amar-Singh HSS, Sridaila Mohd Noor
39. **Exploring Parental Awareness and Compliance to Retinopathy of Prematurity Care after Discharge from a Regional Referral Hospital: A Cross-Sectional Study**
40. Incident Reporting Culture: Do Neonatal Intensive Care Nurses in Malaysia Report a Medication Error?
Nor-Ros-Hanidah Abd-Manak, Nurmunirah Azlan, Akthirah-Baina Raida-Haron, Sabariah Husin, Suzila Abdullah, Chii-Chii Chew, Arvinder-Singh HS, Calvyn-Han-Xen Ee, Amar-Singh HSS, Jeyaseelan-Nachiappan, Sridailila Mohd-Noor

41. Neonatal Incubator Care: Exploring the Neonatal Incubator Temperature Setting Practices at the Special Care Nurseries in Malaysia

42. Parent’s Knowledge of G6PD (Glucose-6-Phosphate Dehydrogenase) Deficiency in Infants

43. Prevalence of Obesity and Screening for Diabetes among Secondary School Students
Edmund Wei-Chang Yu, Narwani Hussin, Marliana Abd-Rahim, Sreevali Muthuvadivelu, Wai-Seong Chan

PHARMACY

44. Knowledge, Attitude and Practice of Doctors on Resistant Enterobacteriaceae in a Regional Referral Hospital
Hoey-Lin Oh

45. Needle-Stick Injuries among Government Pharmacists Working in Perak and Barriers to Reporting Injuries
Pei-Ling Foo, Arvinder-Singh Hs, Chii-Chii Chew, Simarjeet-Singh Dhillon

46. One-Year Readmission and Mortality among Patients Receiving Two-Week Double Dose Clopidogrel Post Percutaneous Coronary Intervention in A Single Tertiary Hospital in Malaysia: a Descriptive Analysis
Doris-George Visuvasam, Asri Ranga, Hazleena, Chee-Tao Chang, Kumutha Kumarasamy

PSYCHIATRY

47. Internised Stigma among Patients with Depression: Comparison between Employed and Unemployed Individuals
Naemah-Abdul Rahim, Chong-Guan Ng, Alli-Hanim Hashim

PUBLIC HEALTH

48. Dangerous Student Drop-Offs or Pick-Ups in Primary Schools in Malaysia
Yen-Lin Teoh, Voon-Lee Lim, Amar-Singh Hss, Wei-Yin Lim

49. Practice Variation among Primary Care Doctors in Managing Asymptomatic Pregnant Women with Abnormal Urinalysis
Hizlinda-Tohid, Kok-Min Yeoh, Yew-Seng Teh, Nor-Anieza Zainuddin

RADIOLOGY

50. Magnetic Resonance Imaging (MRI) of Neonatal Encephalopathy: A Retrospective Review of Clinical Features and Imaging Findings
Yen-Sheng Chua, Wei-Lin Ng

51. Prevalence of Contrast-Induced Nephropathy after Contrast-Enhanced Computed Tomography (CT) in Regional Referral Hospital
Cheong-Koon Ng, Wei-Lin Ng

REHABILITATION

52. Cost Analysis of Pressure Ulcer Management in Spinal Cord Injury
Shivani Rajasegaran

53. Sexual Dysfunction among Patients with Physical Disability
Shivani Rajasegaran

ABSTRACTS FOR DIAGNOSTIC STUDIES

BIOMEDICAL

54. Analysis of MCV, MCH and Hct/Hb Ratio with A-Globin Genotypes among Eligible Blood Donors in Local Private University
Lai-Kuan Teh, Li-Fang Lim, Yu-Leong Teh, Tze-Yan Lee, Lay-Ngor Lim, Elizabeth George

55. G6PD Variants among Chinese Students in a Local Private University
Lai-Kuan Teh, Kok-Mun Lee, Lay-Ngor Lim, Yu-Leong Teh

PATHOLOGY

56. The Accuracy of the Carbapenem-Resistant Enterobacteriaceae-AF Media in Identifying Carbapenem-Resistant Enterobacteriaceae
Eida-Nurhadzira Muhammad, Nur-Diyana Mastor, Zahrul-Laili Abd-Hadi, Alex-Francis Lourdes

PHARMACY

57. Weighing Pressurised Metered Dose Inhaler (pMDI) as Dose Counting Method
Gobi-Hariyanayagam Gunasekaran, Syazwan-Faiz Kamal-Al-Arif
<table>
<thead>
<tr>
<th><strong>ABSTRACTS FOR CASE REPORTS AND CASE SERIES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EMERGENCY MEDICINE</strong></td>
</tr>
</tbody>
</table>
| 58. **A Case Report: Left Atrial Myxoma Presented as an ST-Elevation on ECG**  
  Mohd-Nor Mohd-Firdhaus, Abdul-Kader Izruf-Qabil, Mohd-Ghazali Effendi, Anuar Azmir, Wai-Mun Chung |
| 59. **Datura Fruit Poisoning**  
  Wai-Mun Chung, Yee-Yau Chian, Azmir Anuar |
| **MEDICINE** |
| 60. **A Case Report of Hashimoto's Encephalopathy**  
  Chui-Yee Lee, Vee-Chian Wee, Chun-Fai Cheah |
| 61. **A Case Series of Dermatological Emergencies – Erythroderma**  
  Thai-Lun Tan, Wai-Mun Chung |
| 62. **Acyclovir Neurotoxicity in a Patient with End-Stage Renal Failure on Peritoneal Dialysis: A Diagnostic Dilemma**  
  Christopher Sze-Bing Sim, Brian Mun-Keong Cheong, Yee-Yan Lee |
| 63. **Atypical Presentation of Severe Dengue with Hypotensive Shock in Early Febrile Phase**  
  Jing-Wern Kwan, Li-Yuan Lee, Hafizah Mohamed-Haniba |
| 64. **Case Report: Anti-NMDA-Receptor Encephalitis following Dengue Fever**  
  Senamjit Kaur, Daniel Wong, Li-Ann Chong, Pek-Yong Lim, Joo-Thye Cheng, Chun-Fai Cheah |
| 65. **Choking in a Patient with Parkinson-Plus Syndrome**  
  Wai-Keat Chung, Nariman Singmamae |
| 66. **Churg-Strauss Syndrome – A Rare Systemic Vasculitis with an Element of Auto-Immunity**  
  Jo-Ee Lam, Ray-Yank Tang |
| 67. **Cytomegalovirus Pneumonia in an Immunosuppressed Patient**  
  Tjen-Jhung Lee, Wei-Ching Leong, Brian Mun-Keong Cheong |
| 68. **Extensive Subcutaneous Emphysema in a Young Man with Asthma Exacerbation**  
  Thai-Lun Tan, Li-Yuan Lee |
| 69. **Histopathology Examination: A Vital Diagnostic Tool for Acute Generalized Exanthematous Pustulosis**  
  Uma-Devi Markandan, Wei-Cheng Leong |
| 70. **Increase Risk of Deep-Vein Thrombosis in a Patient with HIV: A Case Report**  
  Cheah-Yin Chow, Brian Mun-Keong Cheong |
| 71. **Multiple Bilateral Renal Abscesses in a Previously Healthy Young Patient**  
  Ray-Yank Tang, Brian-Mun-Keong Cheong |
| 72. **Non-Specific Interstitial Pneumonia (NSIP) in a Pesticide Handler and Treatment with Steroid**  
  Pei-Rong Chiu, Christopher Sze-Bing Sim |
| 73. **Paraquat Poisoning in a District Referral Hospital**  
  Fong-Yeen Khoo, Hairul-Hadi Anff, Brian-Mun Keong-Cheong |
| 74. **Siphoning Diesel: A Fatal Mistake**  
  Wei-Cheng Leong, Brian Mun-Keong Cheong |
| 75. **Systemic Lupus Erythematosus (SLE) in a Young Male: A Diagnostic Challenge**  
  Hairul Hadi Anff, Brian-Mun-Keong Cheong |
| **OPHTHALMOLOGY** |
| 76. **Orbital Apex Cyst: A Rare Cause of Compressive Optic Neuropathy Post-Functional Endoscopic Sinus Surgery**  
  Yi-Ni Koh, Shu-Fen Ho, Letchumanan Pathma, Harvinder Singh, Embong Zunaina |
| **ORAL MAXILLOFACIAL SURGERY** |
| 77. **Case Report of a Hybrid Benign and Malignant Odontogenic Tumor**  
  Wan-Choon Ong, Kar-Tseng Ng, Namkabir-Singh Papindar-Singh, Rithuan Awang, Jesudian-Kovipillai Ferdinand |
| 78. **Case Report: Masson’s Tumour – Rare Intraoral Presentation**  
  Subashini Gunasekaran, Yi-Mei Chng, Khamisah-Awang Kechik, Rithuan Awang, Jesudian-Kovipillai Ferdinand |
| **OTORHINOLARYNGOLOGY** |
| 79. **Endoscopic Excision of a Giant Pleomorphic Adenoma of the Nasal Septum**  
  Ramaprabah Kandiah, Pathma Letchumanan, Harvinder Singh, Baharudin Abdullah |
| 80. **Life-Threatening Parapharyngeal and Retropharyngeal Abscesses in an Infant**  
  Anusha Balasubramanian, Redzwan-Shah J, Norzi Gazali, Philip Rajan |
| 81. **Migratory Foreign Body in the Neck**  
  Aranjit Singh, Anusha Bala, Irfan Mohamad, Philip Rajan |
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>82.</td>
<td>Pinna Granular Cell Tumour in a Child</td>
<td>Guhan K, Philip Rajan, Mazura Mohamed-Zahidi, Irfan Mohamad</td>
</tr>
<tr>
<td>83.</td>
<td>Septal Capillary Haemangioma</td>
<td>Steuphen Roy, Chenthilnathan Periasamy, Harvinder Singh</td>
</tr>
<tr>
<td>84.</td>
<td>A Case Report of Refractory Kawasaki Disease</td>
<td>Shih-Hang Nga, Roshan Singh</td>
</tr>
<tr>
<td>85.</td>
<td>Anti-NMDA Receptor Encephalitis in a Young Child</td>
<td>Kaur Ramneeta, Sheila Gopal-Krishnan</td>
</tr>
<tr>
<td>86.</td>
<td>Neonatal Acinetobacter Baumannii Infection: The Use of Ampicillin-Sulbactam</td>
<td>Chew-Beng Ng, Aida-Noordina Ahmad Rahim, You-Leng Tan, Sallul-Rijal Muhammad</td>
</tr>
<tr>
<td>87.</td>
<td>Post-Electrocution Persistent Manic Depressive Syndrome: A Unique Diagnostic Syndrome and a Red Flag Against Electro-Convulsive Therapy?</td>
<td>Nahdiya Shaari, Ahmad-Syukri Chew</td>
</tr>
<tr>
<td>89.</td>
<td>ECG-GO Using WhatsApp to Improve Knowledge in House Officers</td>
<td>Ray-Yank Tang, Brian Mun-Keong Cheong, Rubiny Arjunan, Banusha Vanukuppal, Soon-Hooi Lim, Cheah-Yin Chow, Loh-Joash Tan</td>
</tr>
<tr>
<td>90.</td>
<td>Increasing Compliance to Pan-Retinal Photocoagulation (PRP) among Proliferative Diabetic Retinopathy (PDR) Patients in an Ophthalmology Clinic of a Tertiary Referral Hospital</td>
<td>Hong-Kee Ng, Ui-Lyn Loh, Gunavathy-Nandakumal, Ivan-En-Yoo Cheng, Norhazwani Azhar, Lalita Kerushnamurthi, Nazahiyyah Mohd-Noor, Kalingkaswan Subramaniam</td>
</tr>
<tr>
<td>91.</td>
<td>Adherence to Prescription Refills for Cyclosporine 0.5% Ophthalmic Drops after Implementation of an SMS (Short-Messaging System) Reminder System: A Quality Assurance Study</td>
<td>Gobi-Hariyanayagam Gunasekaran, Klara-Anthony Anthonysamy</td>
</tr>
<tr>
<td>92.</td>
<td>To Increase the Percentage of Compliance to Docetaxel Infusion within 4 Hours after the Implementation of Pharmacist Intervention: A Quality Assurance Study</td>
<td>Gobi Hariyanayagam Gunasekaran, Klara Anthony Anthonysamy</td>
</tr>
<tr>
<td>93.</td>
<td>Compliance of Nurses to the Nasogastric Tube Feeding Standardised Operating Procedure: A Clinical Audit</td>
<td>Hasimah Jamaluddin, Komalam Padavatan, Rohaida Mohamad, Noraiizah Zakariah</td>
</tr>
<tr>
<td>95.</td>
<td>Screening and Management of Diabetic Nephropathy: A Clinical Audit in Primary Care Clinics</td>
<td>Suriata Daud, Shahruikamal Sidek, Siti-Norhani Suhaime</td>
</tr>
</tbody>
</table>

**PERAK MEDICAL JOURNAL • Volume 14 Number 1 2018**
HEALTH SYSTEM RESEARCH: IMPROVING PATIENTS AND HEALTH SYSTEM OUTCOMES (SPECIAL FOCUS ON CHILDREN)

Amar-Singh HSS¹, Sondi Sararaks²
1 Clinical Research Centre (Perak), Ipoh, Perak
2 Institute for Health Systems Research, Ministry of Health Malaysia

Introduction

Health needs and challenges have dramatically changed in the past few decades. However healthcare professionals and the healthcare systems have changed at a much slower pace and often are not responsive enough to the current health needs of the population. In the past, health systems were more concerned with mortality and morbidity. Many of the health challenges for our time are largely related to health care delivery systems, lifestyle, genetic disorders or behavioural problems. Research into these areas is both challenging and requires a health systems approach.

Why should we do Research?

There are many reasons for conducting research. Some of these involve meeting training requirements, “requests” of managers, academic or career advancement, etc. However, the primary focus of research must be to improve the care of patients and improve health system outcomes.

Not every paediatrician needs to do research but every clinician needs to use research findings in their work and be committed to practicing evidence-based medicine and keeping up to date with latest evidence.

“Despite abundant evidence of the efficacy of life-saving interventions, there is little understanding of how to deliver those interventions effectively.”

Peters, et. al., WHO 2013

What is Health Systems Research (HSR)?

In 1991, Varkevisser, Pathmanathan, and Brownlee (1991) defined health systems research as research that is “concerned with improving the health of people/communities by enhancing the efficiency and effectiveness of the health system as an integral part of the overall process of socio-economic development”.

HSR uses basic research methodology and frequently applies it in a health systems approach. It involves doing research to solve current concerns, with a focus on improving health systems, patient care and outcomes. It requires substantive stakeholder and policy maker involvement throughout the process, with emphasis on multidisciplinary collaborative teams, dialogues and disseminating of evidence to facilitate knowledge translation.

The figure comes from: http://www.idrc.ca/EN/Resources/Publications/openebooks/069-1/index.html#page_11
Some other definitions:

“Health systems research attempts to understand and evaluate how health systems function and how they can be strengthened, including how to develop and implement policies in ways that strengthen, rather than undermine, health systems” Gilson L, WHO 2012.

“Health systems research aims to provide information which will improve the functioning of the health system, and ultimately lead to improved health status. It provides policy options and practical information to role players in the health system. These role-players may range from policy makers at a national level to clinic managers at the primary care level. Health systems research is applied health research” Barron, et al, Health Systems Trust 1997.

Health services research is a “multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health care, the quality and cost of health care, and ultimately, our health and well-being” Lohr, et al, Health Services Research journal 2002.

“Multiple definitions of operational research, implementation research, and health systems research have been proposed in recent years, and many of these define the scope of their research very broadly, resulting in considerable overlap between definitions. Operational research and implementation research are sometimes used interchangeably in the literature, or are classified as health systems research” Remme, PLoS Med 2010.

Note that since 1994 there has been a Harvard-wide Pediatric Health Services Research (HSR) Fellowship Program to train a new generation of investigators who excelled at work that is defining and addressing critical gaps in child health services research and the provision of primary care for children. They examine key issues such as access, quality, outcomes and cost-effectiveness of care.

Note:
There are many different words and phrases that have been used to describe this form of research but ‘Health Systems Research’ (HSR) is the one used in Malaysia. In literature it is also called Health Policy and Systems Research, Health Services Research, Implementation Research in Health, Operations Research.

Health Systems Research (HSR) in Malaysia started as a programme in the mid 1980s, expanded into an institute (the Institute for Health Systems Research), one of the National Institutes of Health.

How does Health Systems Research differ from other forms of Research?

The figure and table below attempt to show some of the different type of research in a diagrammatic form. The core of any research is identical in the stringent methodology and systematic approach required. What is different is the focus and outcome expected. In addition HSR often has an arm that brings the research into policy and practise – a translational research approach. The type of methodology used in any of these research forms may be identical.
Table: Comparison of Clinical Research with Health Systems Research

<table>
<thead>
<tr>
<th>Key Area</th>
<th>Clinical Research</th>
<th>Health Systems Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus</td>
<td>Health of Individuals</td>
<td>Health System</td>
</tr>
<tr>
<td>Methods used</td>
<td>Core research methodology</td>
<td>Core research methodology</td>
</tr>
<tr>
<td>Scope</td>
<td>Local, regional, multicenter</td>
<td>National, regional, multicenter</td>
</tr>
<tr>
<td>Data focus</td>
<td>Disease, therapeutic options, clinical improvement</td>
<td>System change to improve health outcomes</td>
</tr>
<tr>
<td>Output</td>
<td>Publication</td>
<td>Policy Decision, Implementation (programme development), Publication</td>
</tr>
<tr>
<td>End Goal</td>
<td>Add to body of evidence collected</td>
<td>A Health System change to benefit many people/communities</td>
</tr>
</tbody>
</table>

"The major problems facing research today is the lack of application of research findings. Conducting research for ‘research sake’ or the ‘publish or perish mentality’, has resulted in a flood of research publications that have little impact on health – the 10/90 gap in medical research (only 10% of global research funding is spent on health problems that affect 90% of the world’s population). What is required today is applied research – research that impacts the health of the individual and the community, resulting in meaningful improvement in health status.”

Amar, Azman, Sondi, The Medical Research Handbook 2011

What areas should Health Systems Research Focus on?

The focus should be on the people, the users and the personnel within the six building blocks of a health system: health service, health workforce, health information system, medical products, vaccines and technologies, health financing system, leadership and governance (WHO, 2007). The box below outlines the broad areas that are suggested for HSR to focus on. Of vital importance is the organisation & delivery of health services and the evaluation of existing programme.

HSR requires that we engage managers (stakeholder and policy maker) in the identification of research areas so that they participate with us in areas that are mutually deemed as important for the community and system.

HSR requires that we work in large teams that cross conventional boundaries so that input can be obtained from abroad segment of health professionals and the community.

Suggested topics for health systems research:

Financial and human resources:
- Community-based financing and national health insurance
- Human resources for health at the district level and below
- Human resources for health at the national level

Organization and delivery of health services:
- Community involvement
- Equitable, effective, and efficient health care
- Approaches to the organization of health services
- Drug and diagnostic policies

Governance, stewardship, and knowledge management:
- Governance and accountability
- Health information systems
- Priority-setting and evidence-informed policy-making
- Effective approaches for inter-sectoral engagement in health

Global influences:
- Effects of global initiatives and policies (including trade, donors, and international agencies) on health systems

Source: Sanders & Haines, 2006
Quoted in: Gilson L, WHO 2012
Using HSR to Improve Patients and Health System Outcomes

Research is a means to an end. Doing it is to achieve some goal, either implicit or explicit. If the goal is not to improve health systems, then should one be surprised when one cannot improve care? Research done for purposes other than the principles of a Health Systems Research is unlikely to yield results other than what it was designed for. The objectives, hidden agenda and aim of the research affect the outcome in some way.

How then should one proceed? Proceed with the aim in mind, and all else should fall in place. In this case, the aim of research to continually change health services to be relevant and in tune with client needs.

First, design and plan the research as best you can, with lots of search and re-search thrown in. Then put it up to be thrashed, i.e. a good scientific review. Then redesign it. Again. All parts of the research is crucial, skimping on some phases will affect the impact on some way. A common pitfall: problem identification and prioritization. A vital step that requires much thinking and deliberation, this phase is conversely usually invested with minimal time, and approached in a sometimes rushed or slapdash fashion. Another common trap: inadequate search and re-searching of the issue at hand, ending with repeated projects; just more of the same. No amount of copy paste manoeuvres can camouflage the lack of scientific rigour; empirical evidence without adequate dissemination and conversion to knowledge dooms the product to gather dust on shelves. Therefore, strategies to promote utilisation of the research needs to be incorporated right from the beginning.

“The... because health services (systems) research is integrated into routine practice, the health system can be strengthened right from the start of the research long before research results are available. Lessons learnt from the research sites when disseminated to non-research sites can increase immediate impact further and improve service delivery widely. The ongoing financial benefits to the health system are difficult to quantify but in all likelihood outweigh the costs of the research through improved care outcomes.”

Jaffar, et al. Tropical Medicine & International Health journal 2010

Moving Forward in HSR – Some Suggestions
(Thinking Outside the Box)

For paediatricians to move forward, they must think and do research outside their narrow confines, ‘outside the box’. In essence, stop thinking like ‘just a hospital-based paediatrician’. Some key suggestions for change include:

1. Target areas with real health needs. Take time to identify and conduct meaningful research projects. This requires taking time to explore and ask interesting questions with others. Remember that “developing a good research question is the most important part of the research process” (Lipowski, Am J Health-Syst Pharm, 2008).

2. Start from the perspective of the decision-makers even before devising the questions. This means “getting practice into research”. Consider doing research that impacts national programmes. (Walley, Khan, Shah, Witter, Wei, WHO Bulletin, 2007).

3. Have research partnership with meaningful colleagues, clinicians and policy makers. Have clear boundaries to protect you especially from managers or doctors who may opportunistically ‘take over’ your work. Choose your research partners carefully.

4. Do not stop when the research is completed; carry your research to policy. Be an advocate of your research to influence policy. Translate key findings into knowledge that can be used.

Conclusion

Health System Research is a powerful tool to improve the lives of children and families. It focuses on communities and health systems with a view to improve health outcomes. It employed core research methodology but has the benefit of stakeholder/ policy maker/community involvement that also for the research to be transformed into practise; an element missing in conventional research approaches. It is underutilised in the Malaysian context and should be encouraged.
References

- Roberts R, Kennington E. Pharmacy research has an impact on each and every pharmacist. The Pharmaceutical Journal. 2010, Volume 284, Pg 267-268

Authors:

Dato’ Dr Amar-Singh HSS
Senior Consultant Paediatrician (Community)
Head Paediatric Department, Hospital RPB Ipoh,
Head Clinical Research Centre Perak, Malaysia.

Dr. Sondi Sararaks
Medical Officer (Research) & Public Health Specialist
Head, Health Outcomes Research Division,
Institute for Health Systems Research, Ministry of Health Malaysia.
Appendix A: How a HSR research project will take place in the context of training (1-1.5 year cycle)

Training in Health System Research – The Practical approach
(Subtitle: What Works)

<table>
<thead>
<tr>
<th>Area &amp; Important Steps</th>
<th>Mechanism to Achieving Target</th>
<th>Challenges/Issues/Possible Incentives</th>
</tr>
</thead>
</table>
| Having a team of keen Supervisors & Trainers | • Search, experiment, encourage.  
• Must be individuals who have successfully done research on their own. | • Hardest thing to find, often fail.  
• CPD for supervisor as incentive.  
• Get publication/research out of the work as incentive.  
• To pay facilitator allowance during workshops? |
| Identifying keen individuals – the Research Team | • Advertise with clear conditions & expectations.  
• Best to ask participants to pay a part of course fees to obtain interested individuals.  
• Keep list of interested individuals at CRC & NIH. | • Departments & Hospitals often send individuals who are not interested.  
• Work in groups, avoid individual work.  
• Often national, discipline based. |

Structured training in 5 phases over 6-12 months

| Phase One | Prelim Meet to Identify Scope (1-2 months before training) | A preliminary ½ day meeting to clarify the researchers & research ideas.  
• Half the time to discuss expectations, project viability & value.  
• The other half of time for participants to meet & start planning.  
• Discuss literature search & outline for writing a proposal.  
• Outline steps required till next meeting (implicit teaching of research methodology). | Helps weed out disinterested person.  
• Can give out research notes (use research handbook).  
• Allocate supervisors.  
• Expect researchers to meet a few times before training workshop.  
• Funding for research as an incentive. |
| Interim Period - Input for proposal | • Keep in touch with researchers by e-mail, make suggestions on research development.  
• Request the research proposal (draft) to be e-mailed before the workshop. | Need to monitor progress.  
• Need to push to meet datelines. |
| Phase Two | Research Proposal Development (2-3 day workshop) | A 2-3 day workshop to write a research proposal.  
• Very intensive, use nights as well.  
• Supervisor to researcher ratio 1:4 (i.e. one fulltime supervisor to 4 researchers in one group). Same supervisor throughout.  
• Strong leader in research training needed to help supervisors.  
• Minimal formal teaching. Use examples of each group to teach.  
• Show examples from previous studies.  
• Encourage a research presentation to managers at the end of the workshop. | Limit to 4 groups.  
• Researchers must come with a research proposal already written in draft form.  
• Researchers come with literature search near completed.  
• Do NMRR registration during this period.  
• Biggest difficulty is the development of research tools.  
• Facilitate workshop with good internet access, good access for retrieval of literature. |
| Interim Period - Finalise proposal | • Keep in touch with researchers by e-mail, make suggestions on improvement of research proposal (finalise).  
• Ensure they meet timeline for submission. | Supervisors must have regular meetings with them to ensure continuity.  
• Check on preliminary data. |
<table>
<thead>
<tr>
<th>Area &amp; Important Steps</th>
<th>Mechanism to Achieving Target</th>
<th>Challenges/Issues/Possible Incentives</th>
</tr>
</thead>
</table>
| **Phase Three**        | • A 1-2 day workshop to learn database development & preliminary data entry.  
                        | • Preliminary data analysis issues discussed. | • Often use SPSS software with STATA & EpiInfo2000. |
| Database & Data        |                                |                                      |
| Management (1-2 day    |                                |                                      |
| workshop)              |                                |                                      |
| **Phase Four**         | • A 3-4 day workshop to complete data analysis & write up manuscript.  
                        | • Very intensive, use nights as well.  
                        | • Supervisors must actually write with the researchers.  
                        | • Must have a research presentation to managers at the end of the workshop. | • Researchers must come with data entry completed & cleaned.  
                        |                                | • Researchers must come with preliminary data analysis & draft manuscript. |
| Data Analysis & Report |                                |                                      |
| writing (Manuscript)   |                                |                                      |
| with Dissemination     |                                |                                      |
| (3-4 day workshop)     |                                |                                      |
| **Phase Five**         | • A 3 day workshop to complete publication.  
                        | • Usually 4 groups with supervisors & trainers.  
                        | • Pre-identified 1 person with writing capability. | • Chose the best projects with keenest researchers.  
                        |                                | • Use BMJ style of writing discussion (weakest section) Docherty & Smith BMJ 1999; 318;1224-1225.  
                        |                                | • Incentive may be name in print or CPD points. |
| Publication            |                                |                                      |
| (3 day workshop)       |                                |                                      |
| **Dissemination & Uptake of research findings** | • Arrange local, regional national research & scientific meetings to encourage research presentation & sharing (stimulates others to do research).  
                        | • Presentation to managers nationally. | • Who pushes for this – the CRC/NIH or the researchers? |
| **Other Mechanisms**   | • Local journal to encourage first time publication.  
                        | • 1:1 tutorial for individual researchers (masters students, etc).  
                        | • Training workshops in data analysis (SPSS). | • All these activities mean that you lose your own research & publications!  
                        |                                | • Select research teams to do research with supervisors (who are managers), in areas addressed as a need for the nation/MOH. |
Appendix B: Example of one HSR Project Involving Children (written for the BMJ)

Getting Research into Practice (GRiP): Vaccine Storage in Private Practice in Malaysia

Private practitioner clinics (general practice and specialist clinics) (PPC) in Malaysia have a different structure from the NHS in UK. They are mostly stand alone clinics with limited supervision and monitoring. Evidence shows that good vaccine storage practices are still lacking even in developed countries among PPCs, and there is a great need to evaluate the situation in Malaysia since at least 20 - 30\% of the population seeks immunization services from them. There have been no large interventions to support these PPC before and the assumption has been that private practitioners (PP) might not be willing to open their clinics to scrutiny. This study aimed to assess vaccine storage practices, and the effectiveness of an intervention to improve these practices among PPC.

We conducted this non-controlled community trial in four regions in Malaysia. No control arm was included as we considered it unethical. The trial consisted of four audits (0, 1, 3 and 12 months); and implementation of an intervention package by trained government public health nurses was concurrent with the audits. We assessed six criteria based on WHO guidelines: appropriate refrigerator, dedicated refrigerator for vaccines, correct placement of refrigerator and vaccines, maintenance and monitoring of refrigerator temperature. The intervention consisted of training, material provision (thermometers, training CD, temperature chart, reminders) and incentives (certificates), with immediate post-audit written and verbal feedback.

442 of the 467 clinics invited, participated. Dropout at 1 year was 2.7\%. At baseline, the percentage of PPC complying with any one criterion was low, from 2.3\% (95\% CI: 0.9-3.7) for monitoring internal refrigerator temperature to 21.8\% (95\% CI: 14.3-29.3) for recommended refrigerator type. Only 56.9\% (95\% CI: 45.2-68.7) had refrigerator temperature within recommended range. At one year, significant improvements were seen in five of the six criteria. Furthermore, 50.9\% (95\% CI: 37.0-64.7) of clinics had sustained safe vaccine storage at one year based on a combination of criteria.

The study provides evidence that the vast majority of PPC do not have good vaccine storage. It also shows that PPs, when presented with evidence, were amenable to change. Given appropriate support and education, more than half achieved good vaccine storage. The majority of PP (97.3\%) expressed their appreciation for this initiative and welcomed continued support in this and other areas.

Interim results (after second audit) were presented to the Patient Safety Council Malaysia (PSCM, chaired by DG of Health) in May 2008 due to the immediacy of the situation. Actions requested by PSCM, which have since been implemented, include:

1. Disseminating results widely to all PPs and professional bodies to encourage change.
2. Ministry of Health (MOH) to disseminate the intervention package evaluated in this study to all private clinics in the country.
3. MOH to monitor and enforce mandatory standards, including enforcing the Private Health Care Facilities and Services Act 1998.
4. Extend the study to include MOH health clinics.
5. The intervention package designed in this study could be used elsewhere to make change possible in private clinics to improve vaccine storage practices.

### Appendix C: Some examples of HSR Conducted in Paediatrics or Involving Children in Malaysia (Personal bias in selection)

<table>
<thead>
<tr>
<th>Paediatric Examples of HSR</th>
<th>Impact on System or Possible Future Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amar HSS, Jai Mohan. Screening for Congenital Hypothyroidism: A Regional Pilot Project. Health Systems Research Report 1997, Ipoh Hospital, Malaysia.</td>
<td>Together with other similar research was the evidence for our national newborn hypothyroidism screening programme.</td>
</tr>
<tr>
<td>Yao SC, Chai MC, Amar HSS. Should neonates with specific risk factors be admitted to the special care nursery? A Randomised Trial. Medical Journal of Malaysia 1990 45(1):29-36</td>
<td>Changed the admission policy to SCN for that state and resulted in a 50% reduction in admissions.</td>
</tr>
</tbody>
</table>
A RANDOMISED COMPARATIVE STUDY OF HELMET CPAP VERSUS FACEMASK CPAP IN ACUTE RESPIRATORY FAILURE

Adi Osman¹, Siti-Hafsah Salleh¹, Nik-Azlan Nik-Mohammad²
¹ Emergency & Trauma Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
² Emergency Medicine Department, Universiti Kebangsaan Malaysia (UKM) Medical Centre, Cheras, Kuala Lumpur

INTRODUCTION AND OBJECTIVES

Continuous Positive Airway Pressure (CPAP) is used to improve oxygenation in patients with Acute Respiratory Failure (ARF). There are 2 mechanisms of CPAP delivery - via a football like helmet or a facemask applicator. We aimed to determine the non-inferiority (NI) of the helmet CPAP to the facemask in ARF patients based on respiratory related physiology [heart rate (HR) and respiratory rate (RR)] and partial pressure oxygen levels (PaO₂). We also compared patients’ perception in dyspnoea improvement after CPAP using dyspnoea scale [visual analogue scale (VAS)] and Likert score.

METHODOLOGY

This was a non-inferiority randomised control trial conducted from January 2016 to January 2017 at the Emergency & Trauma Department of Hospital Raja Permaisuri Bainun Ipoh. The researchers used a block randomisation method to randomized 224 patients to the helmet (n=113) and facemask (n=111) groups. The randomised CPAP applicator was administered for 60 minutes. Patients’ physiological parameters, PaO₂ and a self-administered perception of dyspnoea (VAS scale) were recorded before and after 60 minutes of the intervention. Patients were asked for their consent for participation only after they recovered from their acute respiratory distress. The patients were also asked to answer one question and then mark on a 7-point Likert score to capture their perception on how much the breathing has improved after the intervention. Using the VAS scale, the patient’s comfort levels before and after the CPAP was determined. Data was collected in a standardised data collection sheet and analysed using SPSS v21.0. The non-inferiority margin (NIM) of helmet was calculated using the mean difference between groups in improved physiological and blood gas parameters as well as an improvement in the dyspnoea scale was not worse than predetermined NIM. As determined with the help of an expert ED physician, the set NIM for HR was 6 beats per minute, RR was 4 breathe per minute, PaO₂ was -20mmHg and dyspnoea scale was 20mm. No NIM set for discomfort, mucosal dryness and Likert score.

RESULTS

327 patients were approached and 224 consented. From the total consented, 75.0% of them suffered ARF secondary to acute pulmonary oedema. Both the intention to treat and per protocol (PP) analysis showed that the mean difference (facemask minus the helmet) for HR, RR and dyspnoea scale was above NIM. Analysis of covariance was use to analysed HR and RR, while independent t test was use to analyse PaO₂ and dyspnoea scale. PP analysis of mean differences of the HR was -4.35 (SE: 1.80) beats per minute (upper bound of 97.5% CI: – 2.80), mean difference of RR was -1.74 (SE: 0.47) breaths per minute (upper bound of 97.5% CI: – 0.68) and mean difference of dyspnoea scale was 7.04mm (SE: 2.72) (lower bound 97.5% CI: - 1.68). Although there was oxygen improvement (PaO₂ levels) in the helmet group, mean difference between groups was -19.72 mmHg (SE: - 5.08) (lower bound 97.5% CI: – 31.21). The lower bound cross the NIM therefore helmet was inferior to facemask in improving the PaO₂. A Mann-Whitney test for the dyspnoea improvement (7-point Likert’s scale - 1 worse, 7 better) also concluded that the helmet was statistically significant different from the facemask (mean rank 120.85 vs 104.0, p=0.04).There was a statistically significant difference in the proportions of discomfort (36.8% vs 63.2%, p<0.001) and mucosal dryness (42.0% vs 58%, p<0.001) when the categorical variables were compared among the 2 groups.

CONCLUSION

CPAP delivered by helmet shows non-inferiority to the facemask when comparing the HR, RR and dyspnoea in ARF. However, helmet is inferior in improving PaO₂. Patients in helmet group have less discomfort and dryness of mucosa.

KEYWORDS

acute respiratory failure, NIV, helmet

NMRR-14-1894-21782
INTERVENTIONAL STUDIES

KNOWLEDGE AND WILLINGNESS OF DISTRICT HOSPITAL AND HEALTH CLINICS STAFFS IN RESEARCH REGISTRATION PRE AND POST NMRR TRAINING WORKSHOP

Shoen-Chuen Chiew, Norsarlizna Mat-Sari, Siti-Maisarah Mohd-Muksin
Clinical Research Centre, Hospital Seri Manjung, Seri Manjung, Perak

INTRODUCTION AND OBJECTIVES

The National Institutes of Health (NIH) Malaysia requires prospective registration of all research undertaken by Ministry of Health (MOH) staff in a MOH facility with the National Medical Research Registry (NMRR). This is to ensure that all research are conducted safely and ethically. This study evaluated the impact of a NMRR training workshop on the knowledge and willingness of district hospital and health clinic staff in registering their research with NMRR.

METHODOLOGY

A quasi-experimental study was conducted in October 2016. Staff conducting research or pursuing further education from 3 district hospitals, 1 health district office, 1 health clinic, and 1 dental clinic in Perak were invited to attend training on NMRR registration and proposal writing in Hospital Seri Manjung. This half-day workshop included lectures on components required in a proposal, introduction to NMRR and MREC, purpose of research registration as well as NIH guideline for conducting research in MOH facilities. For training on NMRR registration, staff were taught via a step-by-step approach, on creating an NMRR account, and checking registration and approval status of a sample proposal on a test webpage. A questionnaire was used to assess knowledge and willingness of research registration pre- and post-training. The 7-item knowledge domain assessed understanding of the type of research requiring registration, basic NMRR functions, and MREC approval. Each item was evaluated individually, and marked as “correct” or “wrong”. Willingness to register research was assessed by a single item: “Would you register your research with NMRR if you conduct a research in the future?” A multiple-choice question was used to explore the barriers to research registration before the workshop commenced.

RESULTS

A total of 48 staff attended the workshop and answered the pre-training questionnaire, but only 41 (85%) completed the training and answered the post-training questionnaire. Of these 41 staff, 20 (49%) had previously conducted research, but only 10 out of these 20 staff registered their study with NMRR. The workshop improved the knowledge on NMRR registration. There was an increase in the percentage of staff who correctly answered question on “types of research requiring registration” (5% to 81%, p<0.001). The percentage of staff who understood the functions of NMRR rose from 34% to 78% (p<0.001), while the percentage of those who understood NMRR registration steps increased from 59% to 90% (p<0.001). The majority of staff reported that they were willing to register their research with NMRR (98% pre-training and 100% post-training). For those who had previously conducted research (n=20), the most common barrier to research registration was “do not know how to register” (65%), followed by “not informed/unaware about research registration” (55%), and “unaware about its importance” (55%).

CONCLUSION

The NMRR workshop improved the knowledge of health staff in research registration. Although the majority claimed that they were willing to register their research, only few who conducted research in the past have actually done so. The major barrier to research registration was not fully understanding the registration process.

KEYWORDS

knowledge, willingness, research registration, NMRR training workshop

NMRR-16-1614-32484
EXPLORING MALAYSIAN PARENTS’ PLANS ON SLEEPING ARRANGEMENT WITH THEIR NEWBORN

Tjen-Noor-Azmatulakma Abdul-Aziz1, Noor-Shahizan Abdul-Razak1, Nurhidayatun Johari1, Norazra Mohamad1, Roswati Ghazali1, Chee-Tao Chang2, Amar-Singh HSS2,3, Pavithrah Shunmugam2, Haymalatha Rajagam1
1 Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
2 Clinical Research Centre (Perak), Ipoh, Perak
3 Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Bed-sharing is defined as adults and a newborn sleeping in the same bed. To date, there are limited studies in Malaysia on bed-sharing and sleeping arrangements. Bed-sharing may put the newborn at risk for suffocation due to accidental smothering. This study aimed to explore mothers’ plans on sleeping arrangement with their newborn, and their willingness to change practice after the intervention.

METHODOLOGY

A quasi-experimental study was conducted in April 2016, on 190 mothers in the postnatal ward of Hospital Raja Permaisuri Bainun, Perak. Healthy post-delivery Malaysian mothers were randomly selected and enrolled into the control or the intervention group. To prevent contamination bias, recruitment of mothers to the control group began after mothers in the intervention group were discharged. Mothers’ sleeping arrangements with their newborn and reasons for their practices were assessed using a questionnaire developed by the researchers. On the day of discharge, mothers in the intervention group were interviewed face-to-face from the postnatal ward on their plans for sleeping arrangement with their newborn. After the interview, they were advised not to bed-share with their newborn, and given a “Safe Sleeping for Babies Leaflet” on safe sleeping practices. Mothers in the control group were not interviewed nor given any information leaflet on the day of discharge. One week after discharge, mothers in both groups were telephoned-interviewed on their actual sleeping arrangements with their newborn using the same questionnaire. After completion of the telephone interview, mothers in the control group were provided with the same advice and information leaflet as the intervention group.

RESULTS

A total of 190 mothers (95 in each group) were recruited, but one mother in the control group did not complete the telephone interview one week after discharge. The demographic characteristics of mothers in both groups were similar. The baseline bed-sharing prevalence was similar between groups 60.6% in the control group and 61.1% in the intervention group. The proportion of mothers in the intervention group who bed-shared with their newborn reduced from 61.1% to 37.9% after the intervention (p<0.001). Most mothers in the control group opted for bed-sharing to ease breastfeeding (68.4%), while mothers in the intervention group preferred not to bed-share for safety purposes (55.9%).

CONCLUSION

In this study, the majority of mothers practised bed-sharing. Intervention via an information leaflet successfully reduced bed-sharing practices.

KEYWORDS

bed sharing, newborn, sleeping arrangement, intervention

NMRR-16-652-30293
EMPOWERING NEONATAL STAFF NURSES TO INTERPRET RADIOGRAPHS

Azaliah-Zuainee Baharudin¹, Habsah Saad¹, Xiu-Xing Kum¹, Siti-Noor Ibrahim¹, Sharifah-Khalilah Ismail¹, Wai-Keat Chung², David Chee-Tao Chang², Chii-Chii Chew², Netia Jeganathan², Haema Shunmugurajoo³, Amar-Singh HSS²,³, Sridalila Mohd-Noor¹

¹ Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
² Clinical Research Centre (Perak), Ipoh, Perak
³ Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Chest and abdominal radiography are essential imaging modalities in the investigation of various neonatal disorders. Hence, nurses in the Neonatal Intensive Care Unit (NICU) are expected to make preliminary interpretation of radiographs. The objective of this study was to determine the impact of an educational intervention on the ability of NICU staff nurses in interpreting radiographs.

METHODOLOGY

A quasi-experimental was conducted from April to July 2017. The study involved staff nurses from the NICU of Hospital Raja Permaisuri Bainun (HRPB), a tertiary referral centre. There were 4 phases in the study; the development of educational materials and assessment tool, pre-intervention assessment, educational intervention, and post-intervention assessment. In phase 1, we selected 16 radiographs and developed scenarios for the assessment tool, which was validated by a consultant paediatrician. We also selected a separate set of 30 radiographs for the educational intervention. The assessment tool and educational materials were validated by another paediatrician. The assessment tool consisted of 3 sections: lung pathologies (10 questions), device placement (6 questions), and device position (6 questions). In the next phase, we invited staff nurses to participate in a training session. Prior to the training, staff nurses completed the pre-intervention assessment (16 radiographs). Following this, they attended a 20-minute training session on a series of 30 radiographs. The training was conducted by a medical officer via a Microsoft PowerPoint® slide presentation. Nurses were allowed to ask questions if they had any queries. The sister-in-charge approved the conduct of the assessments and training. Immediately after the training, nurses completed the post-intervention assessment (same set of 16 radiographs).

RESULTS

Thirty nine (93%) out of 42 NICU staff nurses participated in the study. The majority (90%) have worked in the NICU for more than 4 years. Nearly two-thirds of them (72%) have received post-basic training in neonatal care. The training significantly improved all three aspects of radiographic interpretation among the nurses. There was an increase in the percentage of nurses who were able to interpret normal lung radiographs (26% to 70%, \( p<0.001 \)), pneumothorax (41% to 85%, \( p<0.001 \)), respiratory distress syndrome (49% to 97%, \( p<0.001 \)), placement of endotracheal tube (56% to 97%, \( p<0.001 \)) and position of endotracheal tube (44% to 87%, \( p<0.001 \)). Although the proportion of nurses who were able to recognise correct placement of the umbilical artery catheter rose from 80% to 90%, this change was not statistically significant (\( p=0.34 \)).

CONCLUSION

The training improved some aspects of radiographic interpretation among neonatal staff nurses. NICU nurses should be encouraged to play a role in identifying radiographic abnormalities. Policy makers should consider including training modules on radiographic interpretation in NICUs nurses’ CPD programme and in the Neonatal Advanced Nursing Diploma Training.

KEYWORDS

empowering, neonatal staff nurses, radiographs

NMRR-17-927-35749
IMPROVING THE SUPPORT OF NEONATES POST DISCHARGED FROM NICU OR SCN

Norasmah Mt-Isa1, Noor-Hazilah Che-Nordin1, Norfariza Mustapha1, Kalpana Muniandy1, Harvinderjit Kaur1, Amar-Singh HSS2,3, Sharon-Linus Lojikip2, Nur-Fatin-Zulaikha Kharudin2, Jia-Min Lai2, Haymalatha Rajagam1, Pue-Siah Chin3

1 Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
2 Clinical Research Centre (Perak), Ipoh, Perak
3 Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

The wellbeing and growth of previously ill neonates after being discharged from the Neonatal Intensive Care Unit (NICU) or Special Care Nursery (SCN), depends largely on the nursing effort by their parents. At home, parents are required to continue caring for these neonates without the presence of healthcare professionals. Their readiness and coping skills to care for these neonates at home are therefore important. Two new interventions have been devised as a measure to support the continuation of neonatal care post NICU or SCN discharge. This study aimed to evaluate the usefulness of these 2 interventions.

METHODOLOGY

This study was conducted from 15th May until 31st August 2017 in the NICU and SCN of Hospital Raja Permaisuri Bainun, Perak. Two new interventions were initially devised, firstly the Discharge Preparation Plan (DPP); it is a personalised discharge plan containing practical parenting and neonatal home care advice, tailored to individual neonate needs, and delivered face-to-face by trained researchers to the individual parent before discharge. Secondly, two home visits within 72 hours post NICU/SCN discharge by Public Health Nurses (PHN); these 2 visits occur at the residing home of the discharged neonate, where immediate health care needs can be delivered at home by the PHN. 20 parents with neonates admitted into the NICU for >1 week and planned for discharge, were estimated to be recruited into the study. Only consented parents received both interventions. Subsequently, at 7 days post discharge, telephone surveys were made to participating parents and involved PHNs, for evaluation of both interventions.

RESULTS

21 parents consented for the study, received both interventions, and participated in the survey. All were mothers, with the median age of 30 years (IQR: 9), and most received secondary school education (57%). The 2 home visits were delivered successfully by a total of 20 PHNs, who also participated in the survey. They had on average 7 years working experience as PHNs. The majority had previous experience in managing premature babies during routine postnatal visits (95%). During the survey, all parents reported feeling prepared caring for their neonate at home after receiving the DPP. On a rating scale from 1 (hardest) to 5 (easiest), most parents rated breastfeeding (52%), coping with emotions (62%), and receiving support (67%) as the easiest (rated 5) issues faced by them. More than half felt easier (rated 4) coping with crying (71%), feeding (67%), and preventing infection (67%). Two areas had unfavourable responses (rated 2), which were confidence in handling milk aspiration (14%) and baby emergencies (19%). All parents were receptive and satisfied with the quality of the home visits. All PHNs felt prepared to deliver 2 home visits post NICU/SCN discharge and the majority agreed that these were adequate to address the immediate health concerns at home (95%).

CONCLUSION

Personalised DPP and sufficient home visits by PHNs are targeted interventions that offer additional support to continue the care for neonates recently discharged from the NICU/SCN.

KEYWORDS

neonates, discharge planning, parents, Public Health Nurses, home visit, intervention

NMRR-17-946-35789
KNOWLEDGE AND PRACTICE OF BREAST CANCER SCREENING AMONG FEMALE HEALTHCARE WORKERS IN A DISTRICT SPECIALIST HOSPITAL

Noorsidah Md-Yusoff1, Nurul-Ain Mohd-Saad1, Shoen-Chuen Chiew2, Aida-Farhana Yusoff3, Huda Zambry3
1 Pharmacy Department, Hospital Seri Manjung, Manjung, Perak
2 Clinical Research Centre, Hospital Seri Manjung, Manjung, Perak
3 Pharmacy Unit, Buntong Health Clinic, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

A cancer patient’s prognosis and treatment success are associated with the stage at the time the cancer is diagnosed. Regular screening for breast cancer can increase chances of survival by detecting cancer at an early stage. Breast self-examination (BSE) and clinical breast examination are vital for early detection of breast cancer. This study aimed to assess the change in knowledge and practice of BSE among female healthcare workers of Hospital Seri Manjung (HSM) following a Breast Cancer Awareness workshop.

METHODOLOGY

A quasi-experimental study was conducted among female healthcare workers of HSM in 2014. Invitation to participate in the Breast Cancer Awareness workshop was sent to an age (<40 vs. ≥40 years old) and occupation-stratified random sample of 160 female healthcare workers. The workshop included lectures on breast cancer screening, diagnosis and management by a surgeon, pharmacological treatment lectures by a pharmacist, and dietary intake advice by a dietitian. Participants who agreed to participate were asked to complete a questionnaire adapted from Mia MS 2007 and Schneider IJC et al. 2013 on demographic data, knowledge on breast cancer risk factors (12 items), signs and symptoms (12 items), BSE (4 items), mammography (10 items); and actual BSE practice (yes/no). One month after the workshop, participants were asked to complete the same questionnaire. Knowledge on breast cancer risk factors, signs and symptoms, BSE, and mammography were presented as a percentage score. The Wilcoxon Signed Rank Test was used to assess changes in knowledge and scores before and after the workshop. The percentage of participants who practiced BSE before and after the workshop was compared using the McNemar’s test.

RESULTS

Of the 160 participants invited, 139 attended the workshop and participated in the study. The median age of participants was 32 years (IQR: 29, 38) with a median practice duration of 8 years (IQR: 3, 14) in the Ministry of Health. Most of the participants were nurses (43.2%), married (73.4%), and Muslims (74.1%). Only 12 (8.6%) participants had a family history of breast cancer. Following the workshop, there were significant improvements in participants’ knowledge on risk factors and signs and symptoms of breast cancer. The median knowledge score of risk factors increased from 50% (IQR: 42, 67) to 67% (IQR: 50, 83) (p<0.001). The median knowledge score of signs and symptoms increased from 83% (IQR: 75, 92) to 92% (IQR: 83, 100) (p<0.001). However, there were no changes in participants’ knowledge on BSE (p=0.16) and mammography (p=0.06). The percentage of participants who practiced BSE increased from 82.0% to 94.2% (p=0.003).

CONCLUSION

Knowledge on breast cancer risk factors, signs and symptoms, and the practice of BSE improved after a breast cancer awareness workshop, but such improvements were not observed for knowledge on BSE and mammography.

KEYWORDS

knowledge, practice, breast cancer screening, female healthcare workers

NMRR-14-1135-22396
ARE OUR YOUNG CHILDREN CARED FOR SAFELY BY CAREGIVERS AT SHOPPING COMPLEXES?

Nadhirah Mohd-Zahid¹, Nurul-Athirah Yahya¹, Nor-Salihah Mohd-Zaini¹, Noorain Sulong¹, Nursyamimi Abidin¹, Suziliana Awang¹, Chee-Tao Chang², Suria Junus², Amar-Singh HSS²-³, Shyielathy Arumugam⁴, Norshazila-Julia Mohd-Shafie¹

¹ Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
² Clinical Research Centre (Perak), Ipoh, Perak
³ Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

According to the CDC Childhood Injury Report (2008), more than 10,000 children aged 0 to 19 years die each year in the United States from an unintentional injury. Shopping complexes, one of the places frequented by parents and their children, may pose various risks to children. The aim of this study was to evaluate the safety of young children at shopping complexes.

METHODOLOGY

A cross-sectional study was conducted from October to November 2016 at 5 (out of 19) randomly selected shopping complexes in Kinta district, Perak. Inclusion criteria were caregivers of children aged between 1.5 and 5 years old (presumed as child’s height at or below waist level of an adult female or hip of an adult male). Researchers posed as shoppers to observe caregivers’ awareness of their children’s safety while shopping. Caregiver-child pairs were randomly selected and observed within a range of 100 metres, for 5 minutes. For caregivers with more than one child, only the youngest child was observed. The major safety criteria observed were contact distance between caregiver and child, whether the child was within sight of the caregiver, and the correct use of shopping trolleys to place children in. An unsafe behaviour was defined as caregivers being more than one arm’s length from their children, and a severely unsafe behaviour was defined as caregivers being out of sight of their children. Observations were recorded in a safety evaluation checklist. After the observation was complete, an information leaflet on keeping children safe while shopping was distributed to the caregivers.

RESULTS

275 caregiver-child pairs were observed. Half of the children were girls (52.0%) and were accompanied by both parents (50.5%). Of the 275 caregivers observed, 88 (32.0%) demonstrated at least one severely unsafe behaviour, and 17 (6.2%) demonstrated at least one unsafe behaviour. Many caregivers (55.3%) allowed their children to walk alone (unattended and out of an arm’s reach). Only 8.4% of caregivers paid complete attention to their child, while the others were engrossed in their shopping activities (25.1%), making withdrawals from the automated teller machine (17.1%), and engrossed in their mobile devices (16.0%). Different safety measures were used by caregivers; 48.4% carried their children in their arms, 34.9% held their children’s hands, 26.9% used strollers, and 26.2% used a shopping trolley.

CONCLUSION

About 1 in 3 children are not cared for safely by caregivers in shopping complexes. Caregivers should be encouraged to use some form of safety measures in shopping complexes, for more effective and safer monitoring of their children.

KEYWORDS

children safety, caregivers, shopping complexes

NMRR-16-1971-33043
ELECTRONIC SCREEN TIME OF TWO-YEAR-OLD CHILDREN IN MALAYSIA

Azaliah Ibrahim1, Nor-Azreen Lazim1, Noor-Syamsiah Aziz1, Rabiatul-Adawiyah Ishak1, Rusmaliana Mohd-Ruslan1, Sri-Devi Raveendran1, Thilagavathy Appalasamy1, Suria Junus2, Amar-Singh HSS2,3, Derrick Kor-Jen Nga2, Norshazila-Julia Mohd-Shafie1
1 Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
2 Clinical Research Centre (Perak), Ipoh, Perak
3 Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Children in the present era spend many hours a day on electronic media, including but not limited to televisions, computers, and phones. With technology advancing at a rapid pace, excessive screen time may have undesirable effects on children's social-emotional interaction and physical activity. This study aimed to determine Malaysian children's time spent on electronic media and factors associated with screen time.

METHODOLOGY

A cross-sectional study was conducted in a community setting. Parents of 2-year-old children were conveniently sampled from 3 out of 5 randomly selected hypermarkets in the Kinta district of Perak. Non-Malaysians and parents of children with significant physical and mental disabilities were excluded. A minimum sample size of 378 was required. Following written consent, parents were interviewed, based on a questionnaire developed in two languages (English and Malay) on their child's time spent on electronic screens. Parents were asked to recall their child's activity on electronic screens in the immediate past 24 hours. We collected the child's time spent on electronic screens, type of device used, location of use, type of visual activities on electronic screen, and whether the child was accompanied. Factors associated with the time spent on electronic screens were explored using multiple linear regression analysis.

RESULTS

A total of 382 parents approached agreed to participate. On average, children spent 5.9 hours (SD: 4.9) on electronic screens, with television having the highest screen time (5.9 hours), followed by iPad/Tablet (3.2 hours). Some children used more than one device at a time (63.6%). Most children spent their time watching shows/movies/documentaries or listening to music (77.2%). Almost half of these children were unaccompanied during the use of electronic screens (47.4%). The child's age of first exposure to electronic devices, number of screens viewed at a time, parent's education level, and parent's occupational class were independently associated with a longer screen time. Children who viewed two devices at a time spent on average 1.34 (95% CI: 0.31, 2.36) hours fewer on screens compared to children who viewed one device at a time.

CONCLUSION

Two-year-old children spend a substantial amount of time on electronic screens. Parents need to be aware of their children's screen time and supervise them.

KEYWORDS

screen, time spent, electronics use, television

NMRR-15-1729-28080
ESCALATOR SAFETY AMONG CHILDREN

Nurul-Natasha Mazlan1, Jasper-John Joseph1, Norzainani Aznan1, Nurainun Said1, Vasanthy Tangavelu1, Umi-Kalsum Musani1, Hasni-Adha Ibrahim2, Chii-Chii Chew2, Kamilah Dahian3, Amar-Singh HSS3,4, Norshazila-Julia Mohd-Shafie1

1 Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
2 Clinical Research Centre (Perak), Ipoh, Perak
3 National Clinical Research Centre, Kuala Lumpur
4 Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Escalator-related injuries involving children are common. Lack of parental supervision and improper shoes and attire are the risk factors for escalator-related injuries among children. This study aimed to explore escalator safety among Malaysian children aged 5 years or below.

METHODOLOGY

An observational study was conducted from October 2016 to January 2017, in 6 (out of 12) randomly selected shopping malls in the Kinta region. Malls equipped with travellator-walkers or single-direction escalators were excluded. Children aged 5 years or below (age estimated based on average height of Malaysian children) and riding escalators at the main mall entrance were included. A sample size of 258 caregiver-child pairs was required after considering 5% dropout. Eligible pairs were randomly selected using a mobile application random number generator. Both caregiver and child were observed for unsafe behaviours according to a checklist of 15 unsafe behaviours constructed from accredited escalator guidelines of 5 different countries. Two researchers positioned near the entry point of the escalator; one observed the caregiver and the other observed the child. One researcher positioned at the exit point of the escalator to distribute leaflets on escalator safety. Researchers were trained to ensure standardisation of data collection. The primary outcome is the proportion of children and caregivers who demonstrated at least 1 unsafe behaviour.

RESULTS

A total of 258 child-caregiver pairs were observed. 149 (57.8%) children and 162 (63.8%) caregivers demonstrated at least 1 unsafe behaviour when using the escalator. The most common unsafe behaviour among children were not following caregiver’s instructions (28.7%), followed by touching panels of the escalator (comb, skirt guard panel or handrail inlet) (17.8%), facing the opposite direction of intended travel (14.7%), wearing inappropriate shoes (12.8%), and loose clothing brushing against escalator steps (10.9%). 4 children used the escalator unattended. The most common unsafe behaviour among caregivers was not holding their child’s hand while using the escalator (41.7%), followed by using a phone/tablet while traveling on the escalator (30.7%), taking a stroller/baby carriage/pushing trolley/hand trolley or a similar item on the escalator (19.3%), and loose clothing brushing against escalator steps (12.6%).

CONCLUSION

A large proportion of children and caregivers used escalators in an unsafe manner. This urges immediate action to rectify unsafe behaviours among escalator users to prevent undesired injuries, especially among children. This calls for a national awareness programme to educate children and caregivers on escalator safety.

KEYWORDS

escalator safety, children, caregiver, unsafe behaviour

NMRR-16-2191-33056
EXPLORING THE PREVALENCE OF HELMET USAGE AMONG STUDENTS ARRIVING TO SCHOOLS BY MOTORCYCLES IN MALAYSIA

Siaw-Huey Law¹, Agiladiswari Karnagaran¹, Shi-Yin Ng¹, Jaya Letchumy¹, Mohammad-Yazid Halit¹, Kavita-Jetly², Netia Jeganathan², Ju-Ying Ang², Amar-Singh HSS²,³, Norshazila-Julia Mohd-Shafie¹
¹ Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
² Clinical Research Centre (Perak), Ipoh, Perak
³ Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Helmet is the best equipment to protect motorcycle users from head injuries, by reducing the severity of head injuries by 72% and deaths by 24%. This study aimed to determine the prevalence of helmet and safety chin strap usage among student motorcyclists in Malaysia.

METHODOLOGY

A cross-sectional study was conducted at secondary schools within Kinta district of Perak in October 2016. 20 national secondary schools (out of 67) from 2 strata (North and South Kinta districts) were randomly sampled. Inclusion criteria were secondary national schools located in the Kinta administrative region, which allows its upper secondary students to ride a motorcycle to school. Excluded were full boarding schools, schools for students with special needs, schools which do not allow students to ride a motorcycle, and students who ride a modified motorbike due to his/her special needs. 3 researchers stationed near the main entrance of school to observe the usage of helmet and chin strap among students arriving at school via motorcycle. Students were observed for an hour during peak arrival time (7am to 8am). Data collected were recorded in a checklist.

RESULTS

1637 out of 4193 students came to school via motorcycle, of who were observed for helmet and chin strap usage. 43.8% (717/1637) students who came by motorcycles did not wear a helmet, and 14.7% (135/920) of those who wore a helmet did not use the chin strap. Of the 1637 who came in a motorcycle, 876 (53.5%) were motorcyclists, of which 65.2% (571/876) came alone, and 34.8% (305/876) came with another student pillion. 761 of the 1637 students were pillions, of which 40.1% (305/761) arrived with another student motorcyclist and 59.9% (456/761) came with a non-student motorcyclist. A higher percentage of student pillions (52.7%) compared student motorcyclists (36.1%) and non-student motorcyclists (22.1%) did not wear a helmet (p=0.003). The percentage that did not use a chin strap appears to be similar among student pillions (20.6%), student motorcyclists (10.9%), and non-student motorcyclist (9.7%) (p=0.80).

CONCLUSION

1 in 3 students arriving in schools by motorcycles did not wear a helmet, and 1 in 7 students who wore a helmet did not use the chin strap. These warrant concertation actions as these children are exposed to the risk of severe injury. There is a need for school authorities to work with road transport department to enforce helmet and chin strap usage among students arriving by motorcycles.

KEYWORDS

motorcycle helmet, student motorcyclist, chin strap, pillion

NMRR-16-1998-33041
PARENT-TEENAGER COMMUNICATION IN THE DIGITAL ERA

Nurhusna Sahidin1, Diyanah-Muhammad Razi1, Rohazrin-Abdul Ranee1, Akmanizam Zainuddin1, Suhannis Saaid1, Nur-Fatin Zulaikha2, Arvinder-Singh HS2, Norshazila-Julia Mohd-Shafie1, Amar-Singh HSS2,3, Lina Hashim2

1 Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
2 Clinical Research Centre (Perak), Ipoh, Perak
3 Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Communication is an essential component in a family setting. Effective communication between parents and their teenager can foster a better relationship among the two. The objective of this study was to evaluate the frequency and time taken in a day by parents and teenagers to communicate with each other via face-to-face and using devices.

METHODOLOGY

A cross-sectional study was carried out from October to November 2016. 5 shopping centres (out of 19) within the Kinta district were randomly selected. Researchers visited shopping centres on Saturday afternoons to approach parent-teenager pairs. We included teenagers aged between 13 and 17 years, parent-teenager pairs staying in the same house, and excluded teenagers who came to the shopping centre with their grandparents only. The sample size needed for this study after considering a 20% drop out rate was 307 pairs. Families were given 15 minutes to fill out a self-administered questionnaire. Teenagers and parents answered the questionnaire separately. The questionnaire consisted of 3 sections - the basic demography of the participant, a 24-hour parent-teenager communication recall and the satisfaction of communication between them using devices and face-to-face. A validated questionnaire from Barnes & Olson (1985) was used to assess the satisfaction of communication between the pairs. Once both questionnaires were completed, they were combined and coded with the same number to enable paired analysis.

RESULTS

314 (71.2%) out of 434 parent and teenager pairs that were approached participated in this study. The sample size target was met and 309 were included for data analysis (5 excluded as questionnaires were incomplete). Most respondents were mothers [183 (59.2%)] and daughters [209 (67.6%)]. Families reported that they communicated most frequently with each other using face-to-face communication and the mean frequency in the past 24 hours was 8.6 (SD: 18.2) for parents and 7.5 (SD: 7.2) for teenagers. The mean time parents and teenagers reported communicating with each other via face-to-face was 53.3 (SD: 108.8) and 49.8 (SD: 87.7) minutes respectively. Families reported that they communicated with each other using devices with the mean frequency in the past 24 hours was 6.2 (SD: 6.5) for parent recall and 7.1 (SD: 10.3) for teenagers. The mean time parents and teenagers reported communicating with each other via devices was 19.9 (SD: 23.9) and 35.7 (SD: 70.6) minutes respectively. Families reported that they were satisfied with their communication (94.5% parents, 94.2% teenager) but felt that there was room for improvement (47.6% parents, 51.5% teenager). There was no statistical significant difference between the communication scores among parents and teenagers using devices (p=0.094) and face to face communication (p=0.803) showing that there was an accuracy of reporting on both parties.

CONCLUSION

This study found that parents and teenagers communicate with each other more via face-to-face compared to using devices. Both parents and teenagers expressed that the ideal way for communication is via face-to-face. They also felt that although they might be happy with their communication, there was room for improvement.

KEYWORDS

parent, teenager, communication, devices, digital era

NMRR-16-2185-33058
OBSERVATIONAL STUDIES

PREVALENCE AND PROPER USAGE OF CHILD CAR SEAT AMONG MALAYSIANS

Crystal Hue-Ven Tan¹, N.Latha Nadeson¹, Halimatul-Saadiah Marzuki¹, Noraini Abdul-Aziz¹, Noor-Azura Hasan-Basri¹, Wan-Silahuddeen Wan-Hambali¹, Hooi-Shoo Yeap¹, Nor-Aizura Zulkifli², Pavithrah Shunmugam², Kavita-Jetly Jagjit-Kumar-Jetly², Amar-Singh HSS²,³, Bee-Sim Chua³, Norshazila-Julia Mohd-Shafie¹

¹ Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
² Clinical Research Centre (Perak), Ipoh, Perak
³ Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Child car seats are used to hold infants and children safely in place when travelling in vehicles. The appropriate use of child car seat has been reported to decrease the risk of mortality among children in road traffic accidents. The increase in motor vehicles and road traffic injuries in Malaysia calls for an evaluation of child occupant safety. The aim of this study was to determine the prevalence and appropriate usage of child car seat by parents/ caregivers of children ≤5 years-old in Malaysia.

METHODOLOGY

A cross-sectional study was conducted over two months in the Kinta district. 4 out of 21 hypermarkets having flat car park entrance barriers were conveniently selected. Researchers approached vehicles arriving at these ticket entrances with an information leaflet pertaining to safety use of a child car seat. Those with children ≤5 years-old were selected. If a vehicle has more than one child aged ≤5 years-old, the youngest child was observed. The researchers also observed the usage of child car seat and its method of usage according to a self-developed structured checklist based on international literature. Appropriateness was determined based on the direction of child car seat placement according to child’s age group and whether the child was buckled up. The actual age of the child in the vehicle was requested from parents/ caregivers. The child’s age was estimated when parents/ caregivers chose not to disclose this information. Multiple logistic regression analysis was performed to determine factors associated with the use of a child car seat.

RESULTS

Of 966 vehicles with children observed, the children’s actual age were not known in 8%, leaving the remaining 889 for analysis. The mean age of children was 2.31 (SD: 1.3) years, and most parents/ caregivers were Malays (64.1%). Only 16% (142/889) of parents/ caregivers had a child car seat. However, only half of them placed their child in the car seat (80/142=56.3%), while the others placed other items in the car seat. Of the 80 who placed their child in the car seats, only half (46/80=57.5%) used the car seats appropriately. 6.3% (n=5) of children were not buckled up and 38.8% (n=31) were placed in the incorrect direction. Children who were not placed in the child car seat were lap held by their parents/ caregivers (52.3%), or seated on the vehicle seat (37.8%). Chinese parents/ caregivers were 2 times more likely to use a child car seat than Malays, adjusted for child’s age (OR: 1.69, 95% CI: 1.17, 2.45). Parents/ caregivers of children <2 years-old were 2 times more likely to have child car seat installed in their vehicles than those with older children, adjusted for ethnicity (OR: 1.81, 95% CI: 1.26, 2.60).

CONCLUSION

The prevalence of child car seat use among children ≤5 years-old in Malaysia is low. Many who use child car seats do not secure their children properly. Children are at high risk of injuries while transported in cars locally.

KEYWORDS

prevalence, proper usage, child car seat

NMRR-15-1710-28077
UNERUPTED PERMANENT MAXILLARY CENTRAL INCISORS IN DEVELOPING DENTITION AMONG PRIMARY SCHOOL CHILDREN IN THE KINTA DISTRICT

Yen-Pei Chan, Shanthini-Devi Subramaniam, Suhailiza Saharudin
Paediatric Dentistry Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

The eruption of human dentition occurs in a chronological sequence. Significant deviations from accepted norms of eruption time is considered as delayed tooth eruption. Delayed tooth eruption is usually asymptomatic, but it may cause cosmetic and pathological complications especially involving the permanent maxillary central incisors. Diagnosis of delayed eruption should be made by the age of 9 to allow appropriate treatment to be performed and will reduce surgical and orthodontic complications. This study was to determine the prevalence and management of unerupted permanent maxillary central incisors in the developing dentition among primary school children in Kinta, Perak.

METHODOLOGY

A cross-sectional study was conducted from December 2016 till March 2017 by looking at stored dental records of standard 3 students in 2015 kept by the mobile clinic of the Kinta District Dental Health Office. The researchers employed a multistage sampling method for this study. First, they systematically selected every 4th school from a total of 141 schools Kinta schools that were visited by the mobile clinic (47 schools were covered). Then, 1 in every 4 dental records were systematically selected. The researchers screened the records to obtain the demographic data (age, gender and race), followed by the presence of maxillary central incisors (during dental examination) and the management performed which included the orthodontic referral records. Any identified cases of missed diagnosis for unerupted permanent maxillary central incisors, Pejabat Kesihatan Daerah (PKD) Pergigian Kinta will be notified for vigilant monitoring for incisor eruption in these children. The minimum sample size needed for this study was 578. It was based on the prevalence of unerupted permanent maxillary central incisors (2.6%) from a study by Di Biase D.D. (1968-1969). Data was recorded into a standardised data collection sheet and analysed with SPSS v20.

RESULTS

A total of 762 dental records from the total of 3274 were examined. The researchers excluded 13 dental records due to incomplete demographic data and dental charting, giving a final sample of 749. This study identified a total of 19 children (2.5%) had unerupted permanent maxillary central incisors by the age of 9. Majority were boys (14) and with Malay ethnicity as the majority (68.4%), followed by Chinese (15.8%), Indians (10.5%) and Orang Asli (5.3%). Of the 19, 10 children (52.6%) had one unerupted permanent maxillary central incisor, while the remaining 9 children (47.4%) had both unerupted permanent maxillary central incisors. Unerupted permanent maxillary central incisors among the 19 identified children were never diagnosed by the PKD Pergigian Kinta staff, therefore no referrals were made to any tertiary centres for further orthodontic management.

CONCLUSION

In conclusion, this study showed a high prevalence of missed diagnosis for unerupted permanent maxillary central incisors, by the primary dental care providers in Kinta, Perak. Awareness about delayed tooth eruption is necessary to ensure proper management and referrals for early interventions to avoid complicated treatment in the future.

KEYWORDS

delayed eruption, unerupted teeth, permanent maxillary central incisors

NMRR-17-1236-36364
USE OF SHARED CARE AND ROUTINE TESTS IN FOLLOW-UP AFTER TREATMENT FOR LOCALISED CUTANEOUS MELANOMA

Wei-Yin Lim1, Robin M Turner3, Rachael L Morton4, Marisa C Jenkins2, Les Irwig2, Angela C Webster2, Mbathio Dieng2,4, Robyn P M Saw5-7, Pascale Guitera5,8-9, Donald Low10, Cynthia Low10, Katy JL Bell2,11
1 Clinical Research Centre (Perak), Ipoh, Perak, Ministry of Health Malaysia, Malaysia
2 School of Public Health, The University of Sydney, Sydney, New South Wales, Australia
3 School of Public Health and Community Medicine, University of New South Wales, Sydney, New South Wales, Australia
4 NHMRC Clinical Trials Centre, The University of Sydney, Sydney New South Wales, Australia
5 Melanoma Institute Australia, Sydney, New South Wales, Australia
6 Discipline of Surgery, The University of Sydney, Sydney, New South Wales, Australia
7 Division of Surgery, Royal Prince Alfred Hospital, Camperdown, New South Wales, Australia
8 Discipline of Dermatology, The University of Sydney, Sydney, New South Wales, Australia
9 The Sydney Melanoma Diagnostic Centre, Royal Prince Alfred Hospital, Camperdown, New South Wales, Australia
10 Cancer Voices NSW, Sydney, New South Wales, Australia

INTRODUCTION AND OBJECTIVES

The increasing worldwide incidence of melanoma has resulted in a growing patient population undergoing scheduled follow-up with specialists. Frequent follow-up may place an unnecessary burden on patients and healthcare providers, and shared care, the joint participation of general practitioners (GPs) and specialists in the long-term management of chronic disease, could potentially be a solution to the long-term management of melanoma. This study describes the frequency of shared care and routine investigations during follow-up after treatment for localised melanoma.

METHODOLOGY

We randomly sampled 351 people with localised melanoma [American Joint Cancer Committee (AJCC) substages 0 to II] who had not had recurrent or new primary melanoma diagnosed from a total of 901 people treated at Melanoma Institute Australia (MIA) in 2014. MIA is a large, non-profit tertiary referral centre in Australia which specialises in melanoma research treatment and education. We used a stratified random sampling framework to obtain sufficient numbers of people who had stage 0 to II melanoma. We interviewed participants by telephone about their experience of follow-up in the past year, and documented the proportion of melanoma patients without recurrent or new primary melanoma who were undertaking shared care follow-up with a GP. The interview questions were based on a survey questionnaire developed by the investigators, and included 15 questions about shared care and routine investigations. Shared care was defined as any follow-up with doctors outside the specialist centre. We also recorded the frequency and type of routine investigations during follow-up. We calculated weighted estimates that are representative of the full inception cohort to account for the oversampling of people with stage II melanoma.

RESULTS

Of the 351 people who were invited to participate, 230 (66%) consented to the telephone interview. Phone interview participants had similar clinical and demographic characteristics to those who were invited, but were more likely to have stage II melanoma than the full cohort because of the stratified random sampling which oversampled people with stage II melanoma. Most participants were males (62%) averaging 63 (SD: 13) years-old with stage 0/I melanoma (81%). The majority undertook shared care follow-up with a GP (61%). People who had shared care follow-up with a GP were more likely to be male (p=0.006), had a melanoma of lower stage (p for trend=0.02), reside in more remote areas (p for trend<0.001), and were less likely to have completed secondary school (p<0.001). More than one third of all participants reported undergoing tests for melanoma in the past year (37%), most of which are likely to be routine investigations for surveillance. The three most common investigations are blood test (13%), chest X-ray (11%), and ultrasonography (10%).

CONCLUSION

The majority of people treated for a first primary localised melanoma at a specialist centre, without recurrent or new melanoma, undertake shared care follow-up with a GP. Many appear to have had routine investigations as part of their melanoma surveillance.

KEYWORDS

melanoma, follow-up studies, diagnostic imaging, practice patterns, interdisciplinary communication
COMMON MEDICAL APPLICATIONS (APPS) USED AMONG DOCTORS AT A REGIONAL REFERRAL HOSPITAL

Derrick Nga Kor Jen¹, Netia Jeganathan², Lionel Chia², Arvinder-Singh HS², Suria Junus², Nor-Aizura Zulkifli², Chi-Chii Chew², Amar-Singh HS²,³

1 Emergency & Trauma Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
2 Clinical Research Centre (Perak), Ipoh, Perak
3 Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Medical apps are increasingly being used among health care providers for to aid or support clinical decision-making. This study aimed to determine the usage of medical apps among doctors at a regional referral hospital, and factors associated with the type of medical apps used.

METHODOLOGY

A cross-sectional study was conducted among a convenient sample of doctors working in 8 major departments (Anaesthesiology and Intensive Care Unit, Emergency and Trauma, Medical, Obstetrics and Gynaecology, Orthopaedic, Paediatric, Surgical and Psychiatry and Mental Health) of Hospital Raja Permaisuri Bainun from November to December 2015. Equal number of doctors were sampled from each department. Inclusion criteria were doctors who owned a functional smartphone of any kind in the past 6 months. Doctors who consented to participate completed a self-developed questionnaire on socio-demographic details, smartphone’s operating system, and medical apps used (including the name/ type, number, and functional services).

RESULTS

A total of 128 doctors (16 from each department) approached agreed to participate. Most of the participants were female (51.6%), Chinese (37.5%), aged 20 to 29 years (47.7%). 16.4% were specialists, 49.2% were medical officers, and 34.3% were house officers. The majority used a medical app (93%). Most doctors preferred Android (64.8%) operating system over iOS (35.2%). Many (75.8%) used medical apps 1 to 5 times in a day and had 1 to 5 apps on their smartphones (75.0%). Medical apps were used for medical formulations/ drug references (83.6%), followed by disease diagnosis/ management (63.3%), clinical score system/ medical calculator (60.2%), procedure documentation (7.8%), communication with patient (3.1%), and monitoring of patient’s condition (2.3%). The top 5 apps used were Medscape (69.5%), MedCalc (32.8%), Qx Calculate (28.9%), Oxford Clinical Handbooks (24.2%), and MIMS consult (19.5%). Compared to doctors aged 30-60 years and above, a higher proportion of doctors aged 20-29 years use apps for medical formulation/ drug reference (6.6% vs. 93.4%, p<0.001). House officers used medical formulation/ drug reference apps more frequently than medical officers or specialists (100% vs. 81% vs. 27.1%, p<0.001). Clinical score system apps were more commonly used among medical officers than house officers or specialists (66.7% vs. 63.6% vs. 33.3%, p=0.02).

CONCLUSION

Almost all medical doctors have medical apps in their smartphones and the most common apps used was medical formulation/ drug references. Age and working experience of doctors were associated with the choice of medical apps.

KEYWORDS

medicinal applications, doctors, house officers, medical officers, specialists

NMRR-15-1608-27838
OBSERVATIONAL STUDIES

PREVALENCE AND CLINICAL IMPLICATIONS OF DRUG-DRUG

Danijela Gnjidic1-3, Wei Yin Lim4,5, Fiona Stanaway5, Kristina Johnell6, Johan Fastbom6, Fiona M Blyth3,7, Vasi Naganathan3,7

1 Faculty of Pharmacy, The University of Sydney, Sydney, NSW, Australia
2 Departments of Clinical Pharmacology and Aged Care, Royal North Shore Hospital, Sydney, New South Wales, Australia
3 Centre for Education and Research on Ageing, Concord Hospital, Concord, NSW, Australia
4 Clinical Research Centre (Perak), Ipoh, Perak, Ministry of Health Malaysia, Malaysia
5 School of Public Health, The University of Sydney, Sydney, NSW, Australia
6 Aging Research Center, Karolinska Institutet, Stockholm, Sweden
7 Sydney Medical School, The University of Sydney, Sydney, NSW, Australia

INTRODUCTION AND OBJECTIVES

Drug-drug interactions (DDIs) have been associated with adverse drug events and hospitalisations among older people. However, current evidence in relation to DDIs and clinically important outcomes is limited, and the impact of geriatric syndromes (such as frailty, falls, urinary incontinence, delirium, functional decline) on this relationship is unknown. This study aimed to determine the prevalence of DDIs and its association with mortality and institutionalisation (admission to a nursing home), according to the presence of geriatric syndromes, among community-dwelling older men in Australia.

METHODOLOGY

Men aged ≥70 years participating in the Concord Health and Ageing in Men Project (CHAMP) were studied. CHAMP is an ongoing cohort study of community-dwelling older men in Sydney, Australia. Eligibility criteria were age 70 years and above and living in the study region. The only exclusion criterion was living in a residential aged care facility. Follow-up was conducted by 4-monthly phone calls, and subsequently a 2 year and 5 year repeat clinic assessment. The data used in this study included data on medication exposure and geriatric syndromes collected at baseline, and between 2005 and 2007. Mortality and institutionalisation data over the 10 year follow-up were also collected. Potential DDIs were detected with a computer software and classified according to clinical relevance: potentially clinically relevant (type C) and potentially serious (type D). Cox regression was used to assess the relationship between DDIs and mortality and institutionalisation, stratified by geriatric syndromes.

RESULTS

Of the total 1,705 men in the study, 179 (10.5%) had missing data on DDIs and were excluded from the analysis. Among the remaining 1,526 men, 623 (41.0%) had at least one geriatric syndrome. The overall prevalence of DDIs is 9.4%, with type C (7.6%) being more common than type D (2.6%) DDIs. Older men with geriatric syndromes were approximately twice as likely to be exposed to DDIs compared to those without (12.5% vs. 7.4%, \( p = 0.001 \)). Stratified analyses for geriatric syndromes indicate a lack of an association between exposure to DDIs and mortality (HR: 1.12, 95% CI: 0.89, 1.46) or institutionalisation (HR: 0.73, 95% CI: 0.45, 1.19), after adjusting for socio-demographic characteristics, comorbidity, polypharmacy, and functional disability.

CONCLUSION

Older men with geriatric syndromes are more likely to be exposed to DDIs compared to those without geriatric syndromes. Although the causality between DDIs and mortality and institutionalisation cannot be established in this study, it is important that clinicians are aware of the clinical consequences of DDIs in older people, particularly in those with geriatric syndromes.

KEYWORDS

drug-drug interactions, mortality, institutionalisation, older people, geriatric syndromes
COMMON PATHOGENS AND THEIR ANTIBIOTIC RESISTANCE PATTERN AMONG PATIENTS WITH SIMPLE URINARY TRACT INFECTION (UTI) IN OUTPATIENT SETTINGS OF TWO DISTRICT HOSPITALS - A PILOT STUDY

Li-Yuan Lee¹, Soo-Lin Yeoh², Hon-Meng Loke³, Shoen-Chuen Chiew⁴, Boon-Jie Chan⁵,⁶
1 Medical Department, Hospital Seri Manjung, Manjung, Perak
2 Outpatient Department, Hospital Seri Manjung, Manjung, Perak
3 Outpatient Department, Hospital Teluk Intan, Teluk Intan, Perak
4 Clinical Research Centre, Hospital Seri Manjung, Manjung, Perak
5 Pathology Department, Hospital Slim River, Slim River, Perak
6 Pathology Department, Hospital Seri Manjung, Manjung, Perak

INTRODUCTION AND OBJECTIVES

At the outpatient setting, simple UTI can be treated with empirical antibiotics without any urine culture tests, or before the culture results are available. This is of concern as this practice may result in emergence of organisms resistant to the first line empirical antibiotic treatment of UTI. This pilot study aimed to determine the common pathogen causing simple UTI and their antibiotic resistance pattern, seen at the outpatient setting in Hospital Seri Manjung (HSM) and Hospital Teluk Intan (HTI).

METHODOLOGY

This cross-sectional study was conducted in HSM and HTI between July 2014 and August 2016 among consented walk-in patients aged >18 years, presented with symptoms of simple UTI (dysuria, frequency and urgency), and positive for urine leukocyte esterase and/or nitrites at presentation. Patients with symptoms of UTI but with undetected leukocyte esterase or nitrites in their urine at presentation (screened fail), with recurrent UTI, previously hospitalized and received antibiotics within 3 months of presentation, or had any calculus, structural abnormality or having urinary catheter in-situ, were excluded from the study. In this pilot study, 50 patients were targeted to be recruited conveniently. The mid-stream urine specimens from consented patients who fulfilled the inclusion criteria, were cultured on MacConkey agar plates, CHORMagar™ Orientation agar plates & CLED agar plates. Presence of bacteria with significant growth (colony-forming units/ml of urine>100000) of a single type of organism was identified using standard bacteriologic methods. BBL Crystal Identification Systems (Becton Dickinson) was used to identify dubious growth findings. Bacterial sensitivities towards antibiotics were tested with antibiotic disc diffusion method on Müller-Hinton agars. Pathogens isolated were presented descriptively while the resistance patterns were analysed by using WHONET 5.6O.

RESULTS

At HSM, 44 patients were recruited into the study where 16 patients were screened fail and 1 patient absconded. Urine specimens from the 27 remaining patients were therefore cultured. Of the 27 cultured urine specimens, 15 (55.5%) had significant bacterial growth. Majority of the growth was Escherichia coli (11) followed by Proteus mirabilis (2) and Klebsiella pneumoniae (2). At HTI, 99 patients were recruited where 22 patients were screened fail and 19 did not provide urine samples for culture. The remaining 58 patients had their urine specimens cultured. At this centre, only 10 (17.2%) urine specimens had significant bacterial growth. 6 specimens grew Escherichia coli, 2 grew Klebsiella pneumonia, 1 grew Proteus mirabilis and 1 Candida albicans. By combining the data from the 2 centres, the antibiotic resistance rates of Escherichia coli, Klebsiella pneumonia and Proteus mirabilis towards cefuroxime, nitrofurantoin, amoxicillin/ clavulanic acid, sulphamethoxazole / trimethoprim, ciprofloxacin and ampicillin were 0%, 5.6%, 8.3%, 12.5%, 16.7% and 33.3% respectively. The antibiotic resistance rates of Escherichia coli alone towards the above antibiotics were 0%, 0%, 5.9%, 17.6%, 17.6% and 27.3% respectively.

CONCLUSION

The predominant pathogen causing simple UTI as identified in this pilot study is Escherichia coli. Antibiotic resistance rates for the Escherichia coli isolated in this study, were lower than the resistance rates reported by National Antibiotic Resistance Surveillance 2016.

KEYWORDS

antibiotic, resistance, simple UTI, outpatient

NMRR-14-471-21048
COMPARISON OF TWO CLINICAL CASE DEFINITIONS IN DETECTING OVERWEIGHT AND OBESITY AMONG REGISTERED NURSES IN A DISTRICT SPECIALIST HOSPITAL

Pei-Nee Teh¹, Shoen-Chuen Chiew², Sheila Gopal-Krishnan¹, Ee-Lee Yap¹, Fauziah Yusof¹, Rasidah Abdul-Manan¹, Mathavi Santhrasegaran¹, Roszimah Ismail³, Hazira Abdul-Kadir⁴
¹ Paediatric Department, Hospital Seri Manjung, Manjung, Perak
² Clinical Research Centre, Hospital Seri Manjung, Manjung, Perak
³ Anaesthesiology Department, Hospital Seri Manjung, Manjung, Perak
⁴ Psychiatric Department, Hospital Seri Manjung, Manjung, Perak

INTRODUCTION AND OBJECTIVES

Overweight and obesity trends are increasing, and becoming a serious health burden. There has been some contention whether the generalisation of the International Body Mass Index classification (IBMI) to the Asian population can lead to an underestimation of the prevalence of overweight and obesity. This study aimed to 1) compare the prevalence of overweight and obesity based on IBMI and Asian Body Mass Index (ABMI) among female registered nurses, 2) compare the prevalence of cardiovascular (CV)-related co-morbidities among overweight and obese individuals according to both definitions, and 3) determine the factors associated with overweight and obesity in the study population.

METHODOLOGY

A cross-sectional study was conducted among female registered nurses in Hospital Seri Manjung from September to October 2016. The sample size required was 384. Nurses who were pregnant or on confinement, on paid or unpaid leave, and those who did not consent were excluded. Demography, health, work environment, dietary intake and pattern, physical activity were collected via interview by trained researchers using a questionnaire adapted from the Canadian National Survey of the Work and Health of Nurses. Height and weight were measured for BMI calculation. Prevalence of overweight and obesity was presented as percentages. Sensitivity and specificity of both definitions in predicting CV-related co-morbidities were calculated. Factors associated with overweight and obesity were analysed using multiple logistic regression, using the BMI classification that resulted in a higher sensitivity for predicting CV-related co-morbidities.

RESULTS

A total of 393 nurses were interviewed. The prevalence of overweight was similar using both classifications (IBMI 37.2% vs. ABMI 34.6%). However, the prevalence of obesity was higher using ABMI (43.8% vs. 26.0%). Using both definitions, the prevalence of CV-related comorbidities among overweight (IBMI 14.4% vs. ABMI 10.3%) and obese (IBMI 24.5% vs. ABMI 20.3%) nurses were similar. In predicting CV-related co-morbidities, ABMI had a higher sensitivity [90.7% (95% CI: 78.89, 96.52)] compared to IBMI [85.2% (95% CI: 72.34, 92.95)]. A 10-year increase in age is associated with nearly a 2-fold risk of being overweight or obese (OR: 1.83, 95% CI 1.24, 2.70; \( p = 0.002 \)). Married nurses had a higher risk of being overweight or obese (OR: 13.11, 95% CI 2.44, 70.63; \( p = 0.003 \)) than single nurses. Nurses who adhered to the food pyramid less than 50% of the time were 2 times more likely to be overweight or obese (OR: 2.41, 95% CI 1.33, 4.35; \( p = 0.004 \)) compared to nurses who were adherent.

CONCLUSION

The prevalence of overweight by both classifications was similar, but the prevalence of obesity was higher with ABMI. The prevalence of CV related co-morbidities among overweight and obese nurses was higher using the ABMI classification. Increasing age, being married, and the lack of adherence to the food pyramid are associated with a higher risk of being overweight and obese.

KEYWORDS

BMI, overweight, obesity, nurses, co-morbidities

NMRR-16-766-28807
INTRODUCTION AND OBJECTIVES

Alopecia areata (AA) is an autoimmune mediated non-scarring hair loss directed at anagenic hair follicle, most commonly on the scalp. The severity ranges from alopecia follicalis (AF) to alopecia totalis (AT) and alopecia universalis (AU). 40-70% of patients with alopecia follicalis (AF) had improvements in months and some resolve by itself within a year. The possibility of regrowth in patients with AT or AU is less than 10%. Squaric acid dibutylester (SADBE) is a form of contact sensitizer used as immunotherapy in AA with promising outcome and good tolerability with less side effects. The SADBE regime requires scalp sensitization stage with SADBE concentration of 2% followed by 0.001%. Subsequent treatment includes gradually increase of the SADBE concentration from 0.01%, 0.1%, 0.2%, 0.5%, 1% to a maximum of 2%. Optimal SADBE concentration is determined by the manifestation of mild dermatitis (mild erythema and pruritus). AA patients are treated weekly and treatment ends when significant hair growth is noted. This study aimed to determine the outcomes and side effects of SADBE therapy among AA patients treated at Dermatology Department, Hospital Raja Permaisuri Bainun.

METHODOLOGY

This was a retrospective cross-sectional single center study. All patients diagnosed with AA who had failed conventional treatment and completed SADBE therapy for at least 3 months, between December 2015 to July 2017, were included the study. Their data for demography, disease subtypes, duration of presentation to initial SADBE treatment, clinical response to SADBE and side effects were collected through records review. The clinical response to SADBE is determined by Mcdonald Hull and Norris’ grading system. Achievement of at least grade 3 is considered as good response where it is defined as regrowth of terminal hair with patches of alopecia.

RESULTS

Eleven patients were identified and their records reviewed. Their median age was 13 years (IQR: 9, 33), majority of them were females (73%) and of Malay ethnicity (55%). Five were identified to have AA affecting less than 50% of the scalp, and 6 had severe types (1 patient had AT and 5 patients had AU). The median duration of presentation to initial SADBE treatment was 24 months (IQR: 12, 60). Overall, 8 patients achieved good response. Patients with less than 50% scalp involvement had better response rate than those with severe form of AA (80% vs 66%). The median duration taken to achieve good response was 5.5 months (IQR: 4, 7). Among the 8 patients who responded to SADBE treatment, 4 required 10 sessions of SADBE to elicit the regrowth of vellus hair at the concentration of 0.1% to 0.5%. The remaining 4 required more than 10 sessions before vellus hair formation were observed. Of the 3 patients who did not respond to SADBE, 2 were unable to be sensitized at the concentration of 2% and 1 failed to develop terminal hair. Only 3 patients suffered minor side effects including persistent irritation, vesicle and blister formation.

CONCLUSION

Majority of AA patients with different level of severity, responded and tolerated the SADBE treatment. Minor side effects were experienced by only a small number of patients.

KEYWORDS

efficacy of squaric acid dibutylester, alopecia areata

NMRR: Not Available

Editorial notes: This study has not been submitted to the Medical Research & Ethics Committee, Ministry of Health Malaysia for review.
THE INTENTION TO DISCLOSE MEDICAL ERRORS AMONG DOCTORS IN A REFERRAL HOSPITAL IN NORTH MALAYSIA

Arvinder-Singh HS¹,², Abdul Rashid³
1 Masters in Health Research (RCSI, Hons), Penang Medical College, Georgetown, Pulau Pinang
2 Clinical Research Centre (Perak), Ipoh, Perak
3 Public Health Department, Penang Medical College, Georgetown, Pulau Pinang

INTRODUCTION AND OBJECTIVES

In this study, medical errors are defined as unintentional patient harm caused by a doctor’s mistake. This topic, due to limited research, is poorly understood in Malaysia. The objective of this study was to determine the proportion of doctors intending to disclose medical errors, and their attitudes/ perception pertaining to medical errors.

METHODOLOGY

This cross-sectional study was conducted at a tertiary public hospital from July-December 2015 among 276 randomly selected doctors. Data was collected using a standardized and validated self-administered questionnaire intending to measure disclosure and attitudes/ perceptions. The scale had four vignettes in total two medical and two surgical. Each vignette consisted of five questions and each question measured the disclosure. Disclosure was categorised as “No Disclosure”, “Partial Disclosure” or “Full Disclosure”. Data was keyed in and analysed using STATA v 13.0.

RESULTS

Only 10.1% (n=28) intended to disclose medical errors. Most respondents felt that they possessed an attitude/ perception of adequately disclosing errors to patients. There was a statistically significant difference (p<0.001) when comparing the intention of disclosure with perceived disclosures. Most respondents were in common agreement that disclosing an error would make them less likely to get sued, that minor errors should be reported and that they experienced relief from disclosing errors.

CONCLUSION

Most doctors in this study would not disclose medical errors although they perceived that the errors were serious and felt responsible for it. Poor disclosure could be due the fear of litigations and improper mechanisms/ procedures available for disclosure.

KEYWORDS

disclosure, medical errors, Malaysia

NMRR-15-643-25420

PATIENTS’ EXPERIENCES AT THE INTENSIVE CARE UNIT OF THREE TERTIARY HOSPITAL IN MALAYSIA

Suzilawati Mohamed-Ariffin¹, Nitaya Pinyokham², Chiraporn Tachaudomdach²
1 Critical Care Nursing Department, International Islamic University Malaysia, Kuantan, Pahang
2 Medical Nursing Department, Chiang Mai University, Thailand

INTRODUCTION AND OBJECTIVES

The critically ill need advanced care to avoid complications during hospitalisation. Critical care nurses have a pivotal role in identifying traumatic experiences of their patients. Patients may have experienced either a pleasant or an unpleasant stay in the intensive care unit (ICU), which might influence their well-being. This study aimed to explore the experiences of stay at the ICU among patients newly discharged from the ICU.

METHODOLOGY

This cross-sectional study was conducted in 2015. Patients were conveniently recruited from general wards of 3 hospitals in Malaysia (Hospital Tengku Ampuan Afzan, Kuantan, Pahang; Hospital Raja Permaisuri Bainun, Ipoh, Perak; and Hospital Taiping, Taiping, Perak). Inclusion criteria were patients aged 18 to 64 years, with a history of 24 hours to 2 weeks ICU stay, newly discharged from the ICU (within 7 days), fully conscious, and able to understand the Malay language. Patients who consented to participate were interviewed on their experiences in the ICU based on a self-developed questionnaire. The questionnaire included 4 domains: awareness of surroundings, frightening experiences, recall of stay, and satisfaction with care during their stay in the ICU.

RESULTS

A total of 142 patients completed the interview. 46 (32.4%) felt helpless and being close to death. 35 (24.6%) patients experienced nightmares, 20 (14.1%) patients saw frightening moving figures, 14 (10%) patients heard loud sounds from machines, and 12 (8.5%) patients felt pain. Due to severe pain, 54 (38%) patients were unaware of people, place, and time during their stay. 11 (7.7%) patients were pleased by noises emanating from machines and staff in the ICU. 70 (50.7%) patients felt safe in the presence of family members and 97 (68.3%) patients had adequate sleep. 89 (62.7%) patients were grateful to the ICU staff for their good care and service, and were of the opinion that ICU staff were kind, diligent at work and that they delivered the best service to their patients.

CONCLUSION

More than half of the patients were satisfied with services provided by ICU staff. Some had negative experiences during ICU stay due to their medical condition.

KEYWORDS

intensive care experience, intensive care unit, ICU survivors

NMRR-14-1615-23580
OBSERVATIONAL STUDIES

PREVALENCE OF FUNDUS AND MACULAR OPTICAL COHERENCE TOMOGRAPHY (OCT) FINDINGS AMONG DENGUE INPATIENTS IN A REGIONAL REFERRAL HOSPITAL

Mee-Ai Loh¹, Mei-Fong Chong¹, Umi-Kalthum Md-Noh², Hong-Bee Ker³
¹ Ophthalmology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
² Ophthalmology Department, Universiti Kebangsaan Malaysia, Malaysia
³ Internal Medicine Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Dengue is endemic in Malaysia. For the past few decades, there has been a rise in the number of reports describing ocular symptoms and signs associated with dengue fever. However, fundus examination and macular optical coherence tomography (OCT) investigation are not routinely done. The aim of this study was to investigate the prevalence of fundus and macular OCT findings and the spectrum of dengue-related fundus presentation in a Malaysian tertiary hospital.

METHODOLOGY

This was a cross-sectional study conducted at Hospital Raja Permaisuri Bainun, Ipoh from June to August 2015. All dengue patients aged 12 years and above, admitted with a clinical diagnosis of dengue fever (confirmed by NS-1 or dengue serology tests) with clear media and able to sit were included in the study. Patients who were clinically unstable with other febrile illnesses, with pre-existing ocular diseases or a history of intraocular surgery within the last 3 months were excluded. Patients who consented to participate underwent an initial comprehensive ocular examination by an ophthalmology trainee, of which findings were confirmed by an ophthalmologist. Examination included a best-corrected distance (6 metres) and near visual acuities, standard black-on-white Amsler chart testing, pupillary light reflex, fundus examination, followed by dilated fundus photographs and OCT of the macula.

RESULTS

A total of 134 patients were included in the study. The prevalence of abnormal fundus finding and macular OCT finding was 35% (95% CI: 27%, 43%) and 13% (95% CI: 8%, 19%) respectively. 62 eyes of 47 patients had fundus findings whereas 30 eyes of 18 patients had OCT findings. The two most common fundus findings were vessel tortuosity [53 (20%) out of 268 eyes] and yellow subretinal dot [28 (10%) out of 268 eyes]. Diffuse retinal thickening was the most frequent OCT finding [22 (73%) out of 30 eyes], followed by 4 (13%) with foveolitis, 3 (10%) with cystoid macular oedema and 1 (3%) with submacular fluid. Platelet count and haematocrit were not associated with abnormal fundus or macular OCT manifestation in patients suffering from dengue fever.

CONCLUSION

Our study revealed that the prevalence of clinical fundus and macular OCT findings among dengue inpatients were higher compared to other countries, especially during dengue outbreaks. Furthermore, the spectrum of fundus and macular OCT findings in our population can be varied.

KEYWORDS

fundus, optical coherence tomography, dengue

NMRR-15-117-23895
PREVALENCE OF MISDIAGNOSED POTENTIAL SIGHT THREATENING DISORDERS BY PRIMARY CARE PRACTITIONERS IDENTIFIED IN A TERTIARY REFERRAL HOSPITAL IN KINTA DISTRICT, PERAK

Kah-Joon Eng, Hong-Kee Ng, Mei-Fong Chong
Ophthalmology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Red eye is a sign of various eye conditions, including conjunctivitis or even other potential sight-threatening conditions (e.g., anterior uveitis, preseptal cellulitis, etc.). This study aimed to determine the prevalence of potential sight-threatening conditions misdiagnosed as conjunctivitis by primary care practitioners, seen in the Ophthalmology Clinic of a tertiary referral hospital. Patients’ visual outcomes after ophthalmological interventions were reviewed.

METHODOLOGY

This cross-sectional study was conducted in the Ophthalmology Clinic of a tertiary referral hospital in Kinta District, Perak, Malaysia. From June 2016 to May 2017, all patients diagnosed with conjunctivitis by the primary care practitioners and referred for treatment to the Ophthalmology Clinic were captured and included in the study. Each of their names and identity number were recorded into a master list with a unique ID assigned. Referrals for ophthalmological diagnosis and treatment other than conjunctivitis were excluded. In September 2017, the patients’ electronic medical records were retrieved to obtain data for referral diagnosis, diagnosis made by the ophthalmology team and the post-treatment outcome (hospitalized or surgical intervention required). Visual acuity data at presentation and upon discharge or at last follow up were also obtained. All captured data were recorded in a separated data collection sheet, without specifying patients’ unique identifiers. The referral diagnosis was compared to the diagnosis made by the Ophthalmology team, and categorized as “inaccurate” if it differs from the latter, or “accurate” if otherwise. The types and number of sight-threatening conditions among those with inaccurate referral diagnosis were determined. The outcomes of these cases (hospitalized or surgical intervention required) were descriptively described as well. Data obtained were analysed using Microsoft Excel.

RESULTS

A total of 340 patients with the mean age of 32 years, were referred to the Ophthalmology Clinic for further ophthalmological management for conjunctivitis. Of those, 153 (45.0%) had inaccurate referral diagnosis. Among the patients with inaccurate referral diagnosis, sight-threatening erroneous referrals were seen in 23 (15%) patients which include 9 anterior uveitis, 3 preseptal cellulitis, 2 corneal ulcer, 2 kerato-uveitis, 2 dacryocystitis, 2 neovascular glaucoma, 1 subluxated lens, 1 hyphema and 1 post-operative inflammation. All the 23 patients had vision acuity of 6/9 or worse at presentation. 5 out of the 23 patients warranted admission, whereas 3 required additional procedures or surgery. 18 out of the 23 patients showed significant symptom and visual improvement upon administration of ophthalmological treatment (78.3%). 1 patient who was diagnosed with neovascular glaucoma secondary to proliferative diabetic retinopathy denied any improvements. 4 patients were identified to have sight threatening conditions, defaulted subsequent follow up (17.4%).

CONCLUSION

1 in 7 patients with red eye caused by potential sight-threatening conditions were misdiagnosed for conjunctivitis. Inaccurate diagnosis and delay in the treatment of these conditions can lead to irreversible blindness. Hence, primary care practitioners play an important role in detecting sight-threatening conditions whenever patients present to them with red eye symptoms.

KEYWORDS

conjunctivitis, misdiagnosis, potential sight threatening disorder, red eye

NMRR-17-1382-36927
SURGICAL OUTCOME OF VITRECTOMY AMONG ADULTS WITH PROLIFERATIVE DIABETIC RETINOPATHY

Kai-Chi Yeo¹, Cheng-Feng Chew¹, Widad Md-Yusof¹, Mohanarasan Ratanam¹, Wan-Hazabbah Wan-Hitam²
¹ Ophthalmology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
² Ophthalmology Department, Hospital University Sains Malaysia, Kota Bharu, Kelantan

INTRODUCTION AND OBJECTIVES

Patients with diabetes mellitus (DM) might suffer from proliferative diabetic retinopathy (PDR). It may progress to vitreal hemorrhage and eventually lead to tractional retina detachment threatening the macula which could have an impact on patient’s central vision. The objective of this study is to evaluate the surgical outcome of vitrectomy among diabetic adults at Hospital Raja Permaisuri Bainun, Ipoh, Perak.

METHODOLOGY

This cross-sectional study retrospectively reviewed medical records of diabetes patients who underwent vitrectomy between January 2016 and June 2017. Patients aged 18 to 50 years old with either type 1 or type 2 diabetes mellitus without previous ocular surgery or other ocular co-morbidities, having persistent vitreal hemorrhage, tractional retina detachment threatening the macula and retina detachment were included in this study. Patients with history of ocular trauma, amblyopic or other forms of ocular comorbidity were excluded. A self-designed data collection form was created to collect patients’ demographic data, medical history, pre- and post-vitrectomy visual acuity (VA) by using LogMAR chart, pre- and post-vitrectomy intraocular pressure, anatomical attachment, post-operative complications including retinal re-detachment, vitreal hemorrhage. Surgical outcomes could only be accessed after removal of surgical adjuncts at 3-months post operation. The primary outcomes were to determine the improvement of VA after vitrectomy, intra-ocular pressure and post-vitrectomy complications. Data were analysed using SPSS version 22.0. Results were presented in frequency (percentage) and median (interquartile range). Wilcoxon signed rank test was employed to analyse the improvement of pre- and post-vitrectomy; and intra-ocular pressure.

RESULTS

Of 208 DM patients that underwent vitrectomy, the records of 21 eligible patients were analysed. Majority were males 13 (62.0%) with a median age of 35 (IQR: 28, 42). 7 (33.3%) patients have DM and hypertension, 6 (28.6%) patients have DM, hypertension and end stage renal failure, 4 (19.0%) patients have DM, hypertension and chronic kidney disease and only 4 (19.0%) patients have only DM. A total of 26 eyes were assessed at baseline, 21 (80.8%) eyes were found to have vitreal hemorrhage and tractional retina detachment, 2 (7.7%) eyes were noted with only having tractional retina detachment at the time of presentation, another 2 (7.7%) eyes were noted with PDR and vitreal hemorrhage (only one eye was involved in some patients). 5 patients underwent vitrectomy of both eyes whereas 16 patients had vitrectomy on one side with the majority of them were involving the right eye (54.0%). The median of pre-operative VA using LogMAR chart was 1.78 (IQR: 1, 2.56), whereas post-operative VA was improved significantly to 1.00 (IQR: -0.16, 2.16), (p < 0.001). The median of pre-vitrectomy intra-ocular pressure was 15.0 mmHg (IQR: 10.7, 19.3) and increased to 17.5 mmHg (IQR: 6.2, 27.8), (p=0.010). At 3-month post-vitrectomy review, re-bleedings were noted in 4 (15.0%) eyes, raised of intra-ocular pressure was found in 9 (35%) eyes, no re-detachment of retina was noted.

CONCLUSION

There is remarkable clinical improvement of visual acuity post-vitrectomy on patients with DM. However, the results were not able to be generalised as the sample size was small. Future study with larger sample size is needed to improve the representativeness of the study.

KEYWORDS

vitrectomy, young adult, proliferative diabetic retinopathy

Research ID: 37154

Editorial notes: This study has not been submitted to the Medical Research & Ethics Committee, Ministry of Health Malaysia for review.
ENDOSCOPIC COCHLEAR IMPLANT: LITERATURE REVIEW AND CURRENT STATUS

Philip Rajan¹, Hui Mon Teh¹, Narayanan Prepageran², Tengku-Izam Tengku-Kamalden³, Ing-Ping Tang⁴
1 Otorhinolaryngology Department, Hospital Raja Permaisuri Bainun, Ipoh, Malaysia
2 Otorhinolaryngology Department, Universiti Malaya (UM), Kuala Lumpur, Malaysia
3 Otorhinolaryngology Department, Hospital Sultan Ismail, Johor, Malaysia
4 Otorhinolaryngology Department, Universiti Malaysia Sarawak (UNIMAS), Sarawak, Malaysia

PURPOSE OF REVIEW

This study reviews current literatures on the use of rigid endoscopes for cochlear implant surgery.

RECENT FINDINGS

The indications for endoscopic use in otologic surgery are steadily increasing. It has been successfully used to treat middle ear disease such as chronic otitis media, cholesteatoma, ossiculoplasty, and stapes surgery. Endoscope technology and understanding of middle ear anatomy has improved over the last two decades. It has enabled magnified imaging of the middle ear including areas difficult to access with microscope. The anatomy of the round window niche has been very accurately defined. These advantages introduce a number of endoscopic approaches for more accurate electrode placement. In addition, it is believed that some of these new approaches are less invasive and reduce the risk of facial nerve injury from a posterior tympanotomy.

SUMMARY

Endoscope enables excellent visualization of the middle ear with a clear ability to identify anomalies, precisely locate the round window, and perform a cochleostomy. Endoscopic-assisted cochlear implantation has been successfully performed for patients of all age groups and in patients with normal or abnormal middle and inner ears. The presence of a bony buttress appears to be an important factor in ensuring a successful outcome. Adequate experience with endoscopic ear surgery is necessary. It is possibly advantageous over conventional techniques in patients with abnormalities of the middle or inner ear. Long-term outcomes are required to fully assess the success of this procedure.

CONCLUSION

1 in 7 patients with red eye caused by potential sight-threatening conditions were misdiagnosed for conjunctivitis. Inaccurate diagnosis and delay in the treatment of these conditions can lead to irreversible blindness. Hence, primary care practitioners play an important role in detecting sight-threatening conditions whenever patients present to them with red eye symptoms.

KEYWORDS

endoscopy, endoscopic assisted, cochlear implant, cochleostomy, transcanal

Publication:
SURGICAL AND FUNCTIONAL OUTCOMES OF COCHLEAR IMPLANTATION IN POST-LINGUAL AND CROSS-OVER PATIENTS; FIRST 5-YEAR REVIEW OF THE MALAYSIAN NATIONAL COCHLEAR IMPLANT PROGRAMME

Philip Rajan D1, Siti Sabzah Mohd H2, Zulkiflee S3, Tengku Mohamed Izam4, Kumareysh Vijay V1, Iskandar H5, Sobani D6, Valuyeetham KA7, Shahruil Alinan8, Mas Diana9, Nur Azyani6, Farah Dalilah2, Azmawanie A10, Norhana A2, Shahrom A3, Amirudin M4
1 Otorhinolaryngology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
2 Otorhinolaryngology Department, Hospital Sultanah Bahiyah, Alor Setar, Kedah
3 Otorhinolaryngology Department, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan
4 Otorhinolaryngology Department, Hospital Sultan Ismail, Johor Bharu, Johor
5 Otorhinolaryngology Department, Hospital Kuala Lumpur, Kuala Lumpur
6 Otorhinolaryngology Department, Hospital Sungai Buloh, Sungai Buloh, Selangor
7 Otorhinolaryngology Department, Hospital Tuanku Jaafar, Seremban, Negeri Sembilan

INTRODUCTION AND OBJECTIVES

There has been a paradigm shift in the management of acquired sensory neural deafness in the past 30 years. This is due to the emergence of implantable hearing devices such as the cochlear implant. The objective of this study is to identify surgical and functional outcomes of post-lingual and cross-over patients implanted with a cochlear implant under the Malaysian National Cochlear Implant (CI) Program between 2009 and 2013.

METHODOLOGY

We retrospectively reviewed all post-lingual and cross-over recipients of cochlear implants under the Malaysian National CI Program between 2009 and 2013. Data were obtained from the National Otorhinolaryngology Registry of Hearing and Otology Related Disease/Cochlear Implant. Post-lingual recipients are patients who already have well-developed spoken language skills before implantation, whereas cross-over recipients are patients who have only developed some degree of spoken language before implantation. The outcomes measured were surgical complications and functional outcome. Surgical complications were divided into major and minor complications. Functional outcomes were measured using the Categories of Auditory Performances (CAP) scale at 6, 12, and 24 months post-implantation. CAP is a global outcome measure of auditory receptive abilities ranging from 0 “no awareness of environmental sounds” to 7 “can use the telephone with a known listener”.

RESULTS

A total of 56 patients were implanted between 2009 and 2013, of which 41 (73%) were post-lingual and 15 (27%) were cross-over patients. Half of them were males (52%) and most were Malays (79%). The age of implantees ranged from 3 to 64 years old. There were 2 major complications; one is a case of electrode migration at 3 months (1st implantation) and 6 months (2nd implantation) post-implantation. Another was a case of device failure at about one year post-implantation. Both patients were re-implanted in the same ear. There were no minor complications. One third (75%) of the implantees had a CAP score of ≥5 at 6 months post-procedure. The proportion of patients who attained a CAP score of ≥5 rose to 91% at 12 months and 96% and 24 months (p<0.001) post-procedure, respectively.

CONCLUSION

Post-lingual and cross-over patients who received cochlear implants under the Malaysian National CI Program between 2009 and 2013 had good surgical and functional outcomes at 1 year post-implantation. Very few had complications from the procedure.

KEYWORDS

cochlear implant, postlingual deafness, complications, surgical outcomes, functional outcomes, Category of Auditory Performance (CAP)

NMRR-17-1840-37646
INTRODUCTION AND OBJECTIVES

In February 2016, the World Health Organization (WHO) declared Zika virus an international emergency. Although the declaration was lifted nine months later, Zika remains a major global concern. There is some evidence linking the Zika virus to congenital microcephaly. The objective of this study was to determine the birth prevalence of microcephaly in Malaysia.

METHODOLOGY

A multi-centre, cross-sectional study was conducted in all government hospitals with paediatricians. All Malaysian, live, term neonates delivered between August and October 2016, and weighing ≥2500g were included in the study. The head circumference (OFC) of neonates was measured by paediatric medical officers in the postnatal wards. An anthropometric guideline was provided to each study hospital to ensure consistency and standardisation of measurements. An OFC of ≤32cm or OFC which appears small for height and weight (clinically microcephalic) was used as a screening criteria for suspected microcephalic neonates. True microcephaly was defined as neonates with absolute OFC below or at the 3SD (standard deviation) of the WHO Growth Chart for term infants (i.e. OFC 30.3cm full-term females, OFC 30.7cm full-term males). Neonates with suspected microcephaly were referred to paediatricians for further assessment.

RESULTS

23 (45.1%) out of 51 specialists hospitals consented to participate. During the study period, there were a total of 29,087 births, of which 15,502 (53.3%) neonates were screened for microcephaly. 2.8% (430/15,502) of those screened were suspected to be microcephalic. 11.2% (48/430) defaulted their appointments to visit the specialist. 90.2% (388/430) suspected microcephalic neonates had an OFC of ≤32 cm and 9.8% (42/430) had an OFC of >32cm (clinically microcephalic). Only 7 neonates (0.05% of neonates screened) were confirmed to be microcephalic. 5 out of 7 confirmed microcephalic neonates fulfilled the WHO growth chart criteria for term infants and 2 neonates were clinically microcephalic. The cause of microcephaly were idiopathic (n=3), isolated genetic (n=1), toxoplasmosis Immunoglobulin (IgG) positive (n=1), gestational diabetes mellitus (n=1), and possibly intrauterine infection (n=1). None of the neonates had Zika infection. The microcephaly rate obtained in this study was 4.52 per 10,000 births (95% CI: 2.19, 9.32). This microcephaly rate was much higher than in most published reports as well as passive Ministry of Health reports (1 per 10,000 births). However, it is in line with rates suggested by Centres for Disease Control and Prevention (CDC) USA (2-12 per 10,000 live births).

CONCLUSION

No high prevalence of microcephaly was found in this study. Only 0.05% of all neonates screened had microcephaly. Zika is not a problem in Malaysia.

KEYWORDS

microcephaly, prevalence, zika

NMRR-16-648-30377
EVALUATION OF PHARMACEUTICAL CARE ISSUES IN PAEDIATRIC CRITICAL CARE OF A TERTIARY REFERRAL HOSPITAL IN PERAK, MALAYSIA: A CROSS SECTIONAL STUDY

Nurfardilla Ferdaos1, Rosnani Hashim2, Nurul-Adilla-Hayat Jamaluddin2, Amar-Singh HSS3,4, Chii-Chii Chew4, Sze-Ni Khoo1

1 Pharmacy Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
2 Pharmacy Faculty, Cyberjaya University College Medical Sciences, Cyberjaya, Selangor
3 Paediatrics Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
4 Clinical Research Centre (Perak), Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Pharmaceutical care issues (PCIs) are issues related to the pharmacotherapy of an individual patient that actually or potentially interfere with desired health outcomes. PCIs can be categorised into drug-related problems (DRPs), patient-related problems, and other problems. Patients in the Paediatric Intensive Care Unit (PICU) have a higher risk of encountering PCIs because they are critically ill, and are usually prescribed more medications compared to other children. Identification of PCIs among patients in PICU is vital for early rectification or prevention of potential adverse events that may impose harm to patients. Studies from other countries found that 28.8% to 42.7% of DRPs in PICU were due to dosing problems, but local data are limited. Hence, we investigated the prevalence and types of PCIs encountered, as well as associated factors in the PICU of a tertiary referral hospital in Perak. We also investigated the acceptance rate of recommendations made by pharmacists in relation to PCIs that were identified.

METHODOLOGY

This cross-sectional study was conducted from March to May 2017. Patients admitted to the PICU within study period were conveniently included into this study. Patients admitted less than 24 hours or those with incomplete medical records were excluded. Patients’ data (demographic, medical and medication history, details of current admission including diagnosis, types of PCI detected, number of medications prescribed and length of current stay) were continuously retrieved from medical records by a PICU pharmacist, and verified by a senior paediatric pharmacist. The number of patients with PCI and the types of PCIs were recorded, and factors associated with PCIs were identified via multivariate logistic regression.

RESULTS

During the study period, 150 patients were admitted to the PICU. Of these, 27 were excluded due to incomplete medical records (n=7) and short length of stay (n=20), leaving 123 patients for review. Most patients were Malay (68%) boys (59%) aged between 2 and 12 years old (51%). Of the 123 patients, 61% had at least one PCI, with a total of 237 PCIs. Most PCIs (79%) were classified as DRPs, 4% as patient-related problems, and 17% as other problems. Out of 188 DRPs detected, inappropriate dosing (44%) was most commonly reported, followed by inappropriate drug selection (22%) and inappropriate drug administration (15%). A total of 237 recommendations were proposed by the pharmacist, of which 230 (97%) were accepted by the clinician. Patients prescribed 6 or more medications (OR=18.90; 95% CI: 5.25-68.02; p<0.001) and those who stayed more than 4 days in the PICU (OR=3.10; 95% CI: 1.24-7.83; p=0.02) were more likely to have one or more PCI.

CONCLUSION

Approximately 61% of PICU patients had at least one PCI. Most PCIs were due to DRPs, of which inappropriate dosing was the most common cause.

KEYWORDS

paediatric, critical care, PCIs, DRPs, clinical pharmacist

NMRR-17-451-34485
EVALUATING THE QUALITY OF POST-VENIPUNCTURE CARE AMONG ADMITTED NEONATES WITH NEONATAL JAUNDICE IN A REGIONAL REFERRAL HOSPITAL

Kasthuree Balakrishnan¹, Yogeswary Pachaiappan¹, Noorhapisza Mohamed-Safie¹, Norfaiza Zainal¹, Arvinder-Singh HS², Ju-Ying Ang², Xin-Jie Lim², Surla Junus², Kim-Kea Khoo³, Amar-Singh HSS²,³, Sridalila Mohd Noor¹

¹ Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak  
² Clinical Research Centre (Perak), Ipoh, Perak  
³ Paediatrics Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Parents have been known to complain about post-venesction care especially when bruising or bleeding from venepuncture sites were seen on their neonates. This study aimed to evaluate the quality of post-venepuncture care among hospitalized neonates following serum bilirubin blood sampling.

METHODOLOGY

This cross-sectional study was conducted at the Special Care Nursery (SCN) of Hospital Raja Permaisuri Bainun, Ipoh from June to July 2017. Hospitalised neonates with neonatal jaundice were covertly observed during their routine blood sampling procedures. The quality of neonatal post-venepuncture care given by doctors/nurses following blood sampling procedure was evaluated during the observation. Underweight and premature neonates, and those with liver pathologies or clotting disorders were excluded from this study. The researchers, posing as nursing students who offered assistance during routine neonatal bilirubin blood sampling sessions, examined and recorded all previous venepuncture scars/bruises on each neonate before handing them to the doctors/nurses for blood sampling procedure. The neonates were then immediately re-examined for bruising, haematoma, bleeding or blood-soaked cottons at their new venepuncture sites after the procedure. Each of these findings were documented as “poor quality” if identified. Any identified bleeding or improper compression dressings of venepuncture sites, were rectified by the researchers. Time taken for each neonatal blood sampling procedure was also measured. A total of 299 blood sampling attempts were needed to be observed for this study (using a precision sampling assuming that 10% of all blood stopping is poor, setting the precision at 5%, Confidence Interval 99% and assuming a 20% drop out rate).

RESULTS

The researchers observed 299 blood sampling attempts from 169 neonates during the study period. House Officers conducted 262 (87.6%) attempts and the remaining 37 (12.4%) were by nurses. The average duration for blood sampling is 3.75 (SD: 2.43) minutes per neonate. The average number of venepuncture received per neonate for blood sampling is 1.77 times. From the 299 blood sampling attempts, 69 (23.1%; 95%CI: 18.5, 28.4%) resulted in “Poor Quality” post-venepuncture care. From the 169 observed neonates, 61 (36.1%; 95%CI: 29.0, 43.9) suffered “Poor Average Quality” (at least one attempt of total attempts that were “Poor Quality”) post-venepuncture care. The researchers performed a logistic regression looking at the variables and the outcome of “Average Quality”. A univariate binary logistic regression analysis done showed that the “duration of blood taking” and the “number of blood taking attempts” were statistically significant (p<0.001) variables with the outcome of “Poor Average Quality”. A multivariate analysis was done using the 2 significant variables in the univariate analysis and it showed that the “total attempts” was the only variable which was statistically significant when compared to the outcome (p<0.001; Adj. OR: 2.7; 95%CI: 1.6, 4.6, p< 0.001).

CONCLUSION

1 in 3 observed neonates suffered from “Poor Average Quality” post-venepuncture care. The significant factor was the total number of attempts resulting to the “Poor Average Quality” outcome. Results of this study was communicated to the Paediatric Department for further action.

KEYWORDS

bleeding, post-venepuncture care, neonatal jaundice

NMRR-17-994-35764
EXPLORING PARENTAL AWARENESS AND COMPLIANCE TO RETINOPATHY OF PREMATURITY CARE AFTER DISCHARGE FROM A REGIONAL REFERRAL HOSPITAL: A CROSS-SECTIONAL STUDY

Hui-Leing Low¹, Voon-Li Leong¹, Wan-Amila Wan-Musa¹, Ainun-Naim Mohd-Zulkifli¹, Alice Jong¹, Kavita-Jetly², Hasni-Adha Ibrahim², Muhammad-Farid Abd-Ghaffar², Amar-Singh HSS²,³, Netia Jeganathan², Jun-Kin Too³, Haymalatha Rajagam¹

¹ Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
² Clinical Research Centre (Perak), Hospital Raja Permaisuri Bainun, Ipoh, Perak
³ Paediatrics Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Retinopathy of prematurity (ROP) is a vaso-proliferative retinopathy that occurs primarily in low birth weight and preterm infants. It can cause various eye complications which will significantly reduce the quality of life of the affected infants and may further burden the healthcare system. Hence, compliance to the scheduled ROP ophthalmology appointments is important for parents with infants suffering from ROP to follow. This study aimed to evaluate parental awareness and compliance to ROP appointments following a hospital discharge.

METHODOLOGY

This cross-sectional study was conducted in a regional referral centre from May to June 2017. All infants scheduled for ROP appointments from January 2012 to December 2016 were identified from the ROP record in the Special Care Nursery (SCN) and Neonatal Intensive Care Unit (NICU). The medical history of the identified infants (e.g., stage of ROP, treatment received) and their parental compliance to subsequent ROP appointments were assessed through case notes review. The parents were categorized as “compliant” if they attended all of the first three scheduled ophthalmology appointments after discharge. All parents of infants diagnosed with ROP from January 2015 to December 2016, were also approached through telephone for ROP awareness interview. Upon obtaining verbal consent from the parents, their knowledge on contributing factors and complications of ROP were assessed via a structured questionnaire. An infographic on ROP was then disseminated to them via email or WhatsApp based on their preference to provide accurate information.

RESULTS

A total of 279 infants were screened from January 2012 to December 2016. Medical records of 67 (24.0%) infants could not be traced. From the 212 (76.0%) records available, 141 infants were diagnosed with ROP. 15 infants were excluded from the study due to transfer out or death. Upon discharge, all of the 126 infants with ROP were scheduled for ophthalmology appointments. 110 (87.3%) parents were found compliant to the appointments. A high proportion of parents complied to the scheduled appointment, [Stage 1, 54 (80.6%); Stage 2, 31 (91.2%); Stage 3, 24 (100%); Stage 4, 1 (100%)]. Out of the 126 infants, 45 were diagnosed with ROP within January 2015 to December 2016, and 26 (57.8%) of their parents were contactable via telephone. The socio-demography of contactable and uncontactable parents were similar. Among the 26 contacted parents, 18 (40.0%) consented and were interviewed. The majority of the contacted parents had an infants diagnosed with Stage 1 ROP [13 (72.2%)]. All of the contacted parents were aware that their infants had ROP upon discharge and were compliant to the first three scheduled appointments. 17 (94.4%) of them were aware of the risk factors of ROP, 15 (83.3%) recognized that ROP was due to infant prematurity, and 14 (77.8%) were able to mention the complications of ROP correctly.

CONCLUSION

The majority of the parents who had an infant with ROP complied to their ophthalmology appointments upon discharge. Those with a more severe stage of ROP (Stage 3&4) showed a higher compliance rate.

KEYWORDS

parental awareness, retinopathy, retinopathy of prematurity, discharge

NMRR-17-941-35762
INCIDENT REPORTING CULTURE: DO NEONATAL INTENSIVE CARE NURSES IN MALAYSIA REPORT A MEDICATION ERROR?

Nor-Ros-Hanidah Abd-Manak¹, Nurmunirah Azlan¹, Akthirah-Baina Raida-Haron¹, Sabariah Husin¹, Suzilla Abdullah¹, Chii-Chii Chew², Arvinder-Singh HS², Calvyn-Han-Xen Ee², Amar-Singh HSS²,³, Jeyaseelan-Nachiappan²,³, Sridalila Mohd-Noor¹

¹ Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
² Clinical Research Centre (Perak), Ipoh, Perak
³ Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Medication errors are known to occur within the nursing field and it can range from being trivial to life-threatening. The objective of this study was to explore the prevalence and behaviour of medication error reporting among NICU-based nurses in Malaysian hospitals.

METHODOLOGY

A cross-sectional study was conducted nationwide from March to August 2016. Nurses working in the morning/afternoon shifts of 22 conveniently selected government NICU hospitals were included into this study. Paediatricians from these hospitals were sent an instructional document on nurses’ recruitment process. A minimum of 200 nurses were required, and each hospital were asked to randomly select 12 nurses. A validated questionnaire was adapted from Evans MS et al (2006) to measure the awareness of incident reporting system and the barriers of reporting the incidents. In addition, 3 medication error scenarios of different severity were created by a senior consultant paediatrician to identify nurses’ willingness to report and reasons for doing so. Nurses who consented were given a URL to access an online survey in their language of choice (Bahasa Melayu or English). The overall prevalence of medication error reporting was calculated based on the number of nurses who were willing to report errors in all 3 scenarios.

RESULTS

182 NICU nurses working in 15 hospitals responded to the survey. The overall prevalence of medication error reporting was 91.2% (95% CI: 85.9%, 94.7%). 96.7%, 96.2%, and 94.5% nurses would report a mild, moderate, and severe medication error, respectively. 100 (54.9%) had filled in an incident form, but 57 (31.3%) were unsure and 25 (13.7%) did not know what to do with the completed form. On average, 29.5% (mild: 29.7%; moderate: 27.1%; severe: 31.7%) of the nurses would report medication errors because they worry about patient safety. However, 42.1% (mild: 50%; moderate: 42.9%; severe: 33.3%) would not report medication errors although it was an SOP requirement. Among the 16 who did not report medication errors, 14 (87.5%) of them did not want to get into trouble, 9 (56.3%) were worried about the information being shared with other managers, and 8 (50.0%) worried about disciplinary action and medico-legal action (participants were allowed to select more than 1 answer).

CONCLUSION

The majority of NICU nurses disclose medication errors. The small proportion who do not disclose errors fear of getting into trouble, disciplinary/medico-legal litigations, and feel that they do not need to report if their superiors were already aware of the error.

KEYWORDS

incident reporting, medication error, NICU nurses

NMRR-16-647-30294
NEONATAL INCUBATOR CARE: EXPLORING THE NEONATAL INCUBATOR TEMPERATURE SETTING PRACTICES AT THE SPECIAL CARE NURSERIES IN MALAYSIA

Syarini Abdul-Ghani¹, Aneeda-Fatima Fauzi¹, Razimah A-Rahman¹, Wan-Junaidah Wan-Abdul-Malik¹, Netia Jeganathan², Nur-Fatin-Zulaikha Kharudin², Hasni-Adha Ibrahim², Haymalatha Rajagam¹, Amar-Singh HSS²,³, Noor-Khatijah Nurani³

¹ Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
² Clinical Research Centre (Perak), Ipoh, Perak
³ Paediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

An important element in a neonate's survival is the regulation of a neonate's body temperature. The major factors influencing the temperature settings of a neonatal incubator are the birth weight of the neonate, hours of life of the neonate, and the incubator adjusted humidity. The objective of this study was to explore the current practices of, and factors influencing neonatal incubator temperature settings at Special Care Nurseries (SCN) in Malaysia.

METHODOLOGY

A cross-sectional study was conducted nationwide in March 2016, in all government SCNs in Malaysia. A senior nurse with more than 1 year of working experience appointed by the sister-in-charge of the respective SCN was telephone interviewed. If the staff nurse was unavailable, the sister-in-charge was interviewed. Four researchers conducted the interview based on a self-developed questionnaire on incubator settings in 2 languages (Malay and English). Nurses were asked about the current practice of incubator temperature settings for stable neonates admitted to the SCN requiring incubation. Researchers were trained to maximise inter-interviewer reliability.

RESULTS

All 37 SCNs participated in the study. The majority of nurses interviewed had more than 4 years of working experience with incubator care (80%), and most had formal post-basic neonatal training (68%). More than half of them did not have any formal training on thermoregulation of an incubator (58%). In 35 (92%) hospitals the attending staff nurse determined the temperature settings for the incubators and in the remaining 3 (8%), the temperature was determined by the paediatrician in charge. Birth weight and gestational age were the major criteria used to determine the temperature settings of an incubator. There are no local standard guidelines on thermoregulation of an incubator in two thirds of the SCNs. All SCNs monitor the temperature of the neonatal incubator (based on the readings displayed on the digital screen display) and the axillary temperature of neonate every 4-hourly. Temperature values were adjusted accordingly, depending on whether the neonate required phototherapy, or in situations of pyrexia.

CONCLUSION

In Malaysia, the majority of attending staff nurses in government-based SCNs are responsible for determining the temperature setting of an incubator. There is a need for a national guideline for incubator thermoregulation to standardise the appropriate temperature for neonates in stable conditions.

KEYWORDS

neonatal incubator, temperature setting, special care nursery

NMRR-16-643-30298
PARENT’S KNOWLEDGE OF G6PD (GLUCOSE-6-PHOSPHATE DEHYDROGENASE) DEFICIENCY IN INFANTS

Jessy-Hon-Lai Har¹, Sabarina Ahmad¹, Winnie Wong¹, Yugeswary Tharsanamoorthi¹, Suria Junus², Kavita-Jetly², Kim-Kea Khoo³, Amar-Singh HSS²,³, Sridalila Mohd-Noor¹

¹ Allied Health Science College Sultan Azlan Shah, Ulu Kinta, Perak
² Clinical Research Centre (Perak), Ipoh, Perak
³ Pediatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

G6PD deficiency is a hereditary condition in which red blood cells break down when the body is exposed to certain foods, drug, infection or stress. G6PD deficiency is a common inborn metabolic disorder and the most common known human enzyme disease affecting 10% of the world’s population. This study aimed to determine parental knowledge of G6PD deficiency in infants.

METHODOLOGY

A telephone interview was conducted among parents of infants 2 years old and below with G6PD deficiency. All infants with G6PD deficiency delivered in Raja Permaisuri Bainun Hospital from June 2014 to June 2016 were identified from the G6PD book available at the special care nursery (SCN). Parents’ phone numbers were traced from the hospital computerised system or admission book. Criteria assessed during the interview were general knowledge of G6PD deficiency, nutrition and medication restrictions, symptoms of acute haemolysis in G6PD deficiency/dangers, triggering factors for acute haemolysis, and actions taken if acute haemolysis occurs. One or two points were given for each criteria mentioned by the parent during the telephone interview, and zero otherwise. Scores were totalled, and parents were classified as having good knowledge (8 to 10 points), moderate knowledge (5 to 7 points), and poor knowledge (below 5 points).

RESULTS

312 G6PD-deficient infants were identified during the study period. Only 198 telephone numbers were available from the computerised system and the ward admission book. 88 out of 198 mothers responded to the phone call but only 84 mothers agreed to participate. The remaining 110 phone numbers were not in service (n=33) or were unanswered after 3 call attempts (n=77). Phone interview participants were of similar age to non-respondents, but we were unable to contact most of the indigenous mothers. The majority of infants were boys (97.6%) with a mean age of 13 months (SD: 6.5), and most were the only infant in the family (38.1%). Most mothers (78.6%) had good knowledge of G6PD deficiency, followed by 16 (19.0%) with moderate knowledge and 2 (2.4%) with poor knowledge. 81 out of 84 mothers knew that their infants were diagnosed with G6PD deficiency. However, 64 (76.1%) did not know that an infection can trigger haemolysis. The majority were able to mention fava beans as one of the restricted foods (94.0%) but only 5 (6.0%) mentioned traditional herbs. All mothers knew the correct action to be taken if their infant displayed symptoms of haemolysis.

CONCLUSION

The majority of mothers interviewed had good knowledge of G6PD deficiency. However, there are gaps in knowledge regarding infection, methylene blue triggers, and the impact of Chinese/Malay traditional medications.

KEYWORDS

parent’s knowledge, G6PD deficiency, infants, haemolysis

NMRR-16-645-30295
OBSERVATIONAL STUDIES

PREVALENCE OF OBESITY AND SCREENING FOR DIABETES AMONG SECONDARY SCHOOL STUDENTS

Edmund Wei-Chang Yu¹, Narwani Hussin², Marliana Abd-Rahim³, Sreevali Muthuvadivelu², Wai-Seong Chan²
¹ Medical Department, Hospital Taiping, Taiping, Perak
² Clinical Research Centre, Hospital Taiping, Taiping, Perak
³ School Health Team, District Health Office of Larut Matang Selama, Taiping, Perak

INTRODUCTION AND OBJECTIVES

Childhood overweight and obesity is on the rise. Globally, over 340 million children and adolescents aged 5-19 years were overweight or obese in 2016. In Malaysia, about 1 in 4 children aged 13-16 years were overweight or obese. The objectives of this study were to identify the prevalence of overweight and obesity among secondary school students and to determine the mean random blood sugar (RBS) of overweight and obese students.

METHODOLOGY

A cross-sectional study was conducted in July 2016. Two secondary schools scheduled for visit by the School Health Team in Taiping were selected for the study. A minimum of 166 students were required. All Form 4 students aged 16 years with no known history of diabetes mellitus were included in the study by cluster sampling. Participation was subject to consent by parents and assent by children. Height and weight of students were measured using a measuring tape and a bathroom weighing scale, respectively. The World Health Organization (WHO) growth charts were used to calculate age and sex-specific body mass index (BMI) percentiles, which were used to categorise students as underweight, normal weight, overweight, and obese. We then measured RBS of overweight and obese students. Students with RBS >11mmol/l were referred to the paediatric clinic for further workup, and those with RBS <11mmol/l were referred to the nutritionist for counselling and weight management. Data were collected by doctors and nurses using a standardised data collection sheet.

RESULTS

Of the 184 students who participated in the study, 128 (69.6%) were females and 90 (48.9%) were Malays. Their mean weight and height were 56.21kg (SD: 16.24) and 1.61m (SD: 0.08) respectively. The percentage of students who were underweight, normal weight, overweight, and obese were 30.9%, 45.7%, 10.9%, and 12.5% respectively. There was no evidence that sex (p=0.85) and ethnicity (p=0.54) were associated with BMI. None of the students had RBS >11mmol/L, and the mean RBS of overweight and obese students was within normal ranges with mean of 5.95mmol/l (SD: 0.67) (normal range: 4.60-7.70mmol/l).

CONCLUSION

In this study, about 1 in 9 and 1 in 8 secondary school students are overweight and obese, respectively. However, none had RBS above 11mmol/l.

KEYWORDS

obesity, screening for diabetes, secondary school students

NMRR-16-591-30046
KNOWLEDGE, ATTITUDE AND PRACTICE OF DOCTORS ON RESISTANT ENTEROBACTERIACEAE IN A REGIONAL REFERRAL HOSPITAL

Hoey-Lin Oh
Pharmacy Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Resistant gram-negative bacterial (GNB) infections with Extended Spectrum Beta Lactamase (ESBL) producing Enterobacteriaceae, and Carbapenem Resistant Enterobacteriaceae (CRE), are common. This study aimed to assess the knowledge, attitude, and practice of doctors on resistant gram-negative bacteria (ESBL & CRE) in a regional referral hospital.

METHODOLOGY

A self-administered survey was conducted in December 2015. A total of 330 questionnaires were distributed to fully registered doctors, including medical officers (MOs) and specialists. These doctors were recruited from 10 different departments (Anaesthesiology, Accident and Emergency (A&E), Otorhinolaryngology (ENT), Medical, Neurosurgery, Obstetrics and Gynaecology (O&G), Orthopaedic, Paediatric, Plastic and Surgery) in the hospital. The questionnaire consisted of 4 sections, which collected doctor’s demographics, knowledge of resistant GNB, opinions on insufficient number of new antibiotics, and antimicrobial prescribing practices. Knowledge on resistant GNB was assessed via a composite score of 4 questions regarding bacterial definition and the choice of antimicrobial which required matched answers. Knowledge scores were categorised as above and below 50.0% (Thibodeau 2014). Knowledge levels were compared between MOs and specialists, as well as between different specialties.

RESULTS

206 out of 330 (62.4%) questionnaires were returned, of which 142 were MOs and 64 were specialists. Of the 206, 136 (66%) doctors scored above 50%. The proportion who scored above 50% was not significantly different between MOs and specialists (61.3% vs. 76.6%, p=0.05). 48.6% MOs and 71.9% specialists were concerned about GNB resistance, but 33.8% MOs were not aware about treatment insufficiency. More than half of the MOs (54.9%) and specialists (68.9%) were confident in interpreting culture and sensitivity results and performing antibiotic de-escalation themselves; however, only some were able to interpret minimum inhibitory concentration values (39.4% MOs, 29.7% specialists). There was very strong evidence of varying knowledge levels of resistant GNB among all 10 departments (p<0.001), where the majority of MOs in the Anaesthesiology (83.3%) and Medical (89.5%) departments scored above 50.0%. Similarly, confidence in interpreting culture and sensitivity results and de-escalating antibiotics varied across departments (p=0.001). Most Anaesthesiology (62.5%) and Medical (84.2%) MOs were confident in making such decisions, whereas only a small proportion of A&E and Paediatric MOs were able to do so. MOs from the Anaesthesiology and Medical departments (OR: 3.63, 95% CI: 1.21, 10.95; p=0.02), and those who were of the opinion that there were insufficient number of new antibiotics (OR: 2.63, 95% CI 1.15, 6.00; p=0.02) were more likely to obtain a knowledge score above 50.0%.

CONCLUSION

Most doctors scored above 50.0 % on knowledge questions, but there were variations in attitude and practice towards resistant Enterobacteriaceae. MO’s knowledge on resistant GNB was associated with their department of service and opinion on treatment insufficiency.

KEYWORDS

knowledge, attitude, practice, resistant enterobacteriaceae, ESBL, CRE

NMRR-15-1731-27977
NEEDLE-STICK INJURIES AMONG GOVERNMENT PHARMACISTS WORKING IN PERAK AND BARRIERS TO REPORTING INJURIES

Pei-Ling Foo¹, Arvinder-Singh HS², Chii-Chii Chew², Simarjeet-Singh Dhillon¹
1 Pharmacy Department, Kampung Simee Health Clinic, Ipoh, Perak
2 Clinical Research Centre (Perak), Ipoh, Perak
3 Pharmaceutical Enforcement Division, Perak

INTRODUCTION AND OBJECTIVES

Pharmacists’ potential exposure to needle-stick injuries is not well understood and data on needle-stick injuries among pharmacists is limited. However, due to the increased usage of injectable medications, the incidence is expected to increase over time. The objectives of this study were to: 1) determine needle-stick injuries (NSIs) among pharmacists working in government institutions in Perak, 2) evaluate pharmacists’ knowledge and needle-handling practices, and 3) identify the barriers to reporting a NSI.

METHODOLOGY

This cross-sectional study was conducted from January to March 2017 among pharmacists working in government institutions in Perak. We approached the State Pharmaceutical Services Division (BPFK) to request help on disseminating an online questionnaire to pharmacists in the state. We then provided a survey link that was forwarded by BPFK to all pharmaceutical heads of departments in Perak via email and WhatsApp®. The link led potential participants to an online participant information sheet that explained the study, and upon agreement to participate, an online informed consent was obtained. The questionnaire was developed by the researchers consisted of 3 sections; section A: demographic details, section B: multiple choice questions on the knowledge of NSI transmissible diseases, needle-stick handling practices, and if they experienced any NSI, and section C: barriers to reporting a NSI (yes/no). Knowledge and practice were considered poor if any of the questions in section B were incorrect.

RESULTS

Out of 773 pharmacists working in government institutions in Perak, 524 (67.8%) participated in this study. Most of the pharmacists who participated were females (81.3%), fully registered pharmacists (86.5%), working in specialists hospitals (50.0%), with an average working experience of 4.6 (SD: 4.0) years. 10.3% of pharmacists (n=54, 99% CI: 7.3, 14.4) admitted to a prior NSI. Among the 54 who experienced a NSI, 18.5% (99% CI: 8.0, 36.3) did not report the incident. The majority [98.5% (99% CI: 96.3, 99.4)] had poor overall knowledge and practice on needle-handling. The most common barrier to reporting a NSI was not knowing whose duty it was to report a NSI [45.5% (99% CI: 38.9, 51.2)]. NSIs commonly occurred in health clinics [(31.5%, (99% CI: 17.3-50.0)) and in the wards of specialists hospitals [25.9% (99% CI: 13.1-44.3)]. None of the demographic variables were significantly associated with a NSI.

CONCLUSION

About 1 in 10 government pharmacists in Perak had experienced a NSI. Of those who experienced a NSI, only 1 in 5 reported the incident. Pharmacists had poor overall knowledge and practice on needle-handling. The main barrier to reporting was not knowing whose job it was to report a NSI.

KEYWORDS

needle-stick injuries, reporting, pharmacists, Perak

NMRR-16-1568-30437
ONE-YEAR READMISSION AND MORTALITY AMONG PATIENTS RECEIVING TWO-WEEK DOUBLE DOSE CLOPIDOGREL POST PERCUTANEOUS CORONARY INTERVENTION IN A SINGLE TERTIARY HOSPITAL IN MALAYSIA: A DESCRIPTIVE ANALYSIS

Doris-George Visuvasam¹, Asri-Ranga Abdullah-Ramaiah², Hazleena², Chee-Tao Chang³, Kumutha Kumarasamy¹
1 Pharmacy Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
2 Cardiology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

According to the National Cardiovascular Disease Database–Acute Coronary Syndrome (NCVD-ACS) Registry, readmission and survival at one-year and thirty-days are indicators of quality performance in coronary heart disease (CHD) patients. The purpose of this study was to report the cause of unplanned readmissions, percentage of repeat Percutaneous Coronary Intervention (PCI), and incidence of mortality within 30 days and 1 year after PCI in CHD patients.

METHODOLOGY

This was a retrospective cohort study of patients who underwent PCI from January to December 2014 at a tertiary referral hospital in Malaysia. Patients that were on double-antiplatelet therapies (two weeks of clopidogrel 150mg once daily followed by clopidogrel 75mg once daily for a year with acetylsalicylic acid 100–150 mg once daily) and were followed-up for a year were included in this study. Data were extracted from the hospital’s NCVD-ACS database into a standardised data collection form. Data collected included the indications for initial PCI, medications prescribed upon discharge, causes/date of re-admission, and post-PCI complications. All-cause mortality at 30 days and 1 year were determined.

RESULTS

A total of 381 eligible patients underwent PCI between January and December 2014. The patients had a mean age of 56.9 years (SD: 10.7), 86.9 % were male, and 37.8 % were of Malay ethnicity. Indications for PCI were ST-Elevation Myocardial Infarction (STEMI) (49.3 %), non-STEMI (29.9 %), and unstable angina (9.4 %). Medicines prescribed at discharge included statins (96.9 %), angiotensin converting enzyme inhibitors/angiotensin receptor blockers (65.6 %), and beta blockers (73.8 %). The majority of the patients (94.8 %) had another PCI (elective and emergency) within a year. 20 (5.3 %) and 107 (28.1 %) patients had unplanned readmissions within 30 days and a year, respectively. There were at total of 156 unplanned readmissions among the 107 patients, of which 62.8 % were ACS-related requiring another PCI, 31.4 % were non-ACS related, and 5.8 % were for bleeding complications (mainly upper gastrointestinal). Having concurrent co-morbidities (adjusted OR: 2.5, 95% CI: 1.2, 5.3), being hypertensive (AOR: 1.9, 95% CI: 1.1, 3.5), and having had a PCI done for unstable angina (AOR: 3.2, 95% CI: 1.5, 6.8) were associated a higher risk for unplanned readmissions. The 30-day and 1-year all-cause mortality rate after PCI was 0.3 % and 2.6 %, respectively.

CONCLUSION

About one-third of patients who underwent PCI had an unplanned readmission within a year, of which more than half required another PCI. All-cause mortality at 1 year post PCI is 2.6%.

KEYWORDS

readmission, mortality, percutaneous coronary intervention

NMRR 14-1570-23638
INTERNALISED STIGMA AMONG PATIENTS WITH DEPRESSION: COMPARISON BETWEEN EMPLOYED AND UNEMPLOYED INDIVIDUALS

Naemah Abdul-Rahim1, Chong-Guan Ng2, Aili-Hanim Hashim2
1 Psychiatric Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
2 Psychological Medicine Department, University Malaya Medical Centre, Kuala Lumpur

INTRODUCTION AND OBJECTIVES

Stigma is a mark or sign of disgrace, which usually elicits negative attitudes to its bearer. Stigma poses a challenge to people with mental illnesses by reducing their sense of self and hope. The primary objective of this study was to assess the level of internalised stigma among individuals with depression. Our secondary objectives were to compare the level of internalised stigma between employed and unemployed individuals, and factors associated with internalised stigma.

METHODOLOGY

A cross-sectional study was conducted from October to December 2015 among patients who attended the psychiatric clinic of Hospital Raja Permaisuri Bainun Ipoh. All patients aged 18 years and above, diagnosed with depression for at least a month, and met the DSM-5 criteria for major depressive disorder were conveniently sampled into the study. Patients who consented to participate were asked to report their socio-demographic characteristics and complete 2 questionnaires: (1) the Internalised Stigma of Mental Illness (ISMI) scale, which measured levels of internalised stigma, and (2) the Hamilton Depression Rating Scale (HAM-D), which assessed the severity of depression. The stigma score was calculated based on the total score of 29 items which is rated on a Likert scale of 0 to 4 divided by the total number of questions answered. The score was categorised into 2 categories (1 to 2.5 indicates low internalised stigma, 2.51 to 4 high internalised stigma). The HAM-D scale consists of 17 items and each item was scored 3 to 5 points. The total score indicated the severity of depression (0 to 7 normal, 8 to 13 mild, 14 to 18 moderate, 19 to 22 severe, and more than 23 very severe depressions).

RESULTS

Of the 232 eligible patients identified during the study period, 204 consented to participate. The mean age of patients was 51 years (SD: 14.4), most were females (65.2%), of Chinese ethnicity (45.6%), married (63.7%), and had secondary school education (52.4%). Half of them were unemployed (51%). 156 (76.5%) patients had low internalised stigma and 48 (23.5%) had high internalised stigma. 44 (21.6%) had mild depression, 15 (7.4%) moderate depression and 10 (4.9%) severe depression. The proportion of patients with low internalised stigma were similar among unemployed and employed individuals (51.9% vs. 48.1%, \( p = 0.63 \)). Factors independently associated with internalised stigma were the severity of depression \( (p<0.001) \) and past history of suicide \( (p=0.037) \).

CONCLUSION

This study found a significant association between internalised stigma with the severity of depression and past history of suicide in patients with depression. Screening for internalised stigma among people with depression, reducing depression severity, and having effective strategies on suicide prevention may improve the management of people with depression.

KEYWORDS

stigma, depression, suicide

NMRR-15-1123-26088
INTRODUCTION AND OBJECTIVES

Road traffic injuries are the leading cause of death in children aged 1-18 years and are higher in school zones. This study aimed to determine dangerous student drop-off or pick-up behaviours and the impact of school built environment on these behaviours.

METHODOLOGY

This cross-sectional study was conducted over 6 weeks from October to November 2016 at primary schools in Ipoh. Twenty government primary schools were randomly selected from 67 schools in the city. All students wearing school uniforms aged between 7 and 12 years, dropped-off and picked-up by motorised vehicles, were observed during the peak hour of drop-offs and pick-ups (12 noon to 1 pm). Two researchers situated themselves near the front entrance of schools and recorded drop-offs and pick-ups using a concealed camcorder. Videos were independently assessed for dangerous events by two researchers, and a third was consulted when there was a disagreement. A list of nine dangerous events, adapted from Rothman 2014, included: 1) driving at an excessive speed, 2) double parking, 3) drop-off/pick-up on the opposite side of the road unaccompanied, 4) drop-off/pick-up in the middle of the road, 5) waiting vehicles blocking vision of drivers and pedestrians, 6) waiting vehicles blocking the crossing path, 7) vehicles not following traffic rules, 8) students enter/exit on the side of traffic flow, and 9) distracted driving. The school built environment was evaluated based on a 15-item checklist, which included items on: a) site safety (drop-off/pick-up area, sidewalk conditions, bus-loading zones, traffic volumes, sight distance, traffic calming measures, and b) built environment (school zone speed limit, major arterial road length, presence of one-way street, school crossing guard, number of intersections, number of pedestrian crossings, number of dead-ends, number of other schools, number of traffic lights).

RESULTS

In this study, 2,008 students were observed in the 20 schools. Of the total, 32% students were involved in dangerous drop-off or pick-up behaviours, and this was similar for students arriving by motorcycles (38%) or in enclosed vehicles (35%). Approximately 5% had more than one dangerous drop-off or pick-up behaviour. The commonest dangerous behaviours were exiting or entering vehicles on the side of traffic flow (27%), dropped-off or picked-up at the opposite side of the road unaccompanied (25%), and double-parking (23%). Dangerous drop-off and pick-up behaviours were significantly more likely when on-site drop-offs and pick-ups were available ($p<0.001$), and less likely with the presence of sufficient space for drop-offs and pick-ups ($p<0.001$), bus-loading zones ($p<0.001$), and barriers that blocked views ($p<0.001$).

CONCLUSION

About 1 in 3 primary school students were involved in dangerous drop-off or pick-up behaviours, irrespective of the mode of transportation. There is very strong evidence that some features of built environment impact drop-offs and pick-ups of primary school students.

KEYWORDS

dangerous, pick-up, drop-off, built environment, primary school, student

NMRR-16-1897-32968
OBSERVATIONAL STUDIES

PRACTICE VARIATION AMONG PRIMARY CARE DOCTORS IN MANAGING ASYMPTOMATIC PREGNANT WOMEN WITH ABNORMAL URINALYSIS

Hizlinda-Tohid1, Kok-Min Yeoh2, Yew-Seng Teh3, Nor-Anieza Zainuddin4
1 Universiti Kebangsaan Malaysia (UKM), Malaysia
2 Klinik Kesihatan Simee, Ipoh, Perak
3 Klinik Kesihatan Buntong, Ipoh, Perak
4 Klinik Kesihatan Langkap, Langkap, Perak

INTRODUCTION AND OBJECTIVES

Abnormal results from urine tests are common among pregnant women during antenatal followed-up, especially among those without urinary tract infection (UTI) symptoms. This presents a therapeutic dilemma to doctors. This study aimed to determine the proportion of asymptomatic pregnant women with abnormal urinalysis (i.e. positive urinary leukocyte and/or nitrite) and doctors’ practice variation.

METHODOLOGY

A cross-sectional study was carried out from August 2015 to December 2016 among pregnant women who followed-up at three conveniently selected health clinics in Kinta and Hilir Perak districts, namely Klinik Kesihatan Buntong, Simee, and Langkap. We selected 291 pregnant women who met study criteria via systematic random sampling. Inclusion criteria were pregnant women aged >18 years with first, documented full panel urine dipstick results, and exclusion criteria were presence of symptoms and signs of UTI or vaginal discharge documented at the time of testing. Practice variation was evaluated based on the prescription of antibiotics, types of antibiotic prescribed, and whether urine culture was requested. The Malaysian Perinatal Care Manual 2013 was used as the point of reference. Data were collected retrospectively from antenatal books.

RESULTS

281 patients were included in the analysis as 10 had incomplete documentation. The proportion of asymptomatic pregnant women with abnormal urinalysis was 40.2% (113/281). Urine culture was performed in only 12 (10.6%) of these 113 patients, but none of the urine samples exhibit signs of bacterial growth. The majority (63.7%, 72/113) were prescribed a course of antibiotics, but only 10 (13.9%) of these patients had urine culture tests prior to receiving empirical antibiotics. The most common antibiotic prescribed was bacampicillin (43.1%). A Chi-square test showed that the urinary level of leukocyte esterase was significantly associated with the prescription of antibiotics ($p=0.001$). There was no evidence that period of gestation and comorbidities were associated with the prescription of antibiotics.

CONCLUSION

Approximately 40% of asymptomatic pregnant women have abnormal urinalysis. The majority were prescribed antibiotics empirically without first requesting for urine culture. National guidelines suggest that both urine dipsticks and culture should be done but did not specify whether they should be done before the commencement of antibiotics. Our study suggests that urinary levels of leucocyte was associated with the doctors’ decision to prescribe antibiotics.

KEYWORDS

antenatal, abnormal urinalysis, urinary tract infection

NMRR-16-407-29572
Yen-Sheng Chua, Wei-Lin Ng
Radiology Department, Hospital Taiping, Taiping, Perak

INTRODUCTION AND OBJECTIVES

In recent years, magnetic resonance imaging (MRI) has been increasingly used to aid the early detection and diagnosis of neonatal encephalopathy. MRI plays a major role in providing information to guide management and for prognostication. This study aims to determine the relationship between brain MRI findings and the clinical features of neonatal encephalopathy.

METHODOLOGY

This was a retrospective review of neonates who were clinically suspected by paediatricians to have neonatal encephalopathy, and who subsequently underwent brain MRI to confirm the diagnosis between 1st January 2017 and 14th December 2017 in Hospital Taiping. We identified these neonates by tracing paediatric MRI request forms. Potential risk factors of neonatal encephalopathy (antenatal and intrapartum events, Apgar score, history of intubation at birth, seizures within 1 month after birth, cranial ultrasound abnormalities) and information from MRI reports were recorded in a standardised data collection sheet. The relationship between clinical features and brain MRI findings were analysed using the Chi-square test.

RESULTS

A total of 27 records were reviewed. 9 (33%) neonates were born prematurely and the remaining 18 (67%) were born at full term. 18 (67%) neonates had normal birth weight (2.50kg-4.00kg), 7 (25%) low birth weight (1.50kg-2.49kg), 1 (4%) very low birth weight (1.00kg-1.49kg), and 1 (4%) extremely low birth weight (less than 1.00kg). 24 out of 27 neonates underwent a brain MRI between 10 and 66 days of life (MRIs were scheduled based on urgency of the condition and availability). All but one neonate (n=26, 96%) had a low Apgar score, and most neonates (n=24, 89%) had a history of intubation at birth. Half of them (n=15, 56%) had seizures in the ward. 6 (22%) neonates were found to have encephalopathic changes on MRI while 5 (19%) neonates had other pathological findings which were not related to neonatal encephalopathy (subdural haemorrhage, intraparenchymal haemorrhage, cerebellar haemorrhage, recent infarct, and delayed myelination). Of the 6 neonates with encephalopathic changes, MRI examinations showed periventricular leukomalacia (n=4), germinal matrix haemorrhage (n=1), and cerebral/corpus callosum atrophy (n=1). Encephalopathic changes on brain MRI were more likely to be observed in neonates who born prematurely (p=0.02) and those with low birth weight (p=0.007).

CONCLUSION

Low birth weight and prematurity are significantly associated with encephalopathic changes on brain MRI. Brain MRI is able to detect various patterns of neonatal encephalopathy, including periventricular leukomalacia, germinal matrix haemorrhage, deep white matter, brainstem and intervascular watershed zone injuries, and is therefore an important tool for its prognostication.

KEYWORDS

neonatal encephalopathy, MRI

Editorial notes:
There has been national discussion on the ethics of authorship when studies involve more than one discipline. As this study involved the collection of data on neonates from paediatric case notes the authors should include the clinicians involved as co-authors of the paper.
OBSERVATIONAL STUDIES

PREVALENCE OF CONTRAST-INDUCED NEPHROPATHY AFTER CONTRAST-ENHANCED COMPUTED TOMOGRAPHY (CT) IN REGIONAL REFERRAL HOSPITAL

Cheong-Koon Ng, Wei-Lin Ng
Radiology Department, Hospital Taiping, Taiping, Perak

INTRODUCTION AND OBJECTIVES

Intravascular iodinated contrast media (CM) is widely used in radiological imaging such as CT, angiography and fluoroscopy. In Hospital Taiping, the majority of contrast media is used in CT scan. Contrast-induced nephropathy (CIN) is defined as an impairment of renal function measured as either a 25% increase in serum creatinine from baseline or a 44 µmol/L increase in absolute serum creatinine value within 48-72 hours after intravenous contrast administration. Multiple risk factors may contribute to the development of CIN which may include predisposing comorbid such as diabetes and hypertension. Nephrology support is important in management of these patients. Prophylactic use of N-acetylcysteine (NAC) or/and pre-scan hydration treatment are often used. Dialysis may be required in some cases. This study aims to identify the outcome post CM in correlation with patient’s pre-existing renal impairment and management pre CM.

METHODOLOGY

A retrospective data collection was done from 1st September to 30th November 2017 in Hospital Taiping. All male and female patients who had a contrast CT scans with renal impairment (Creatinine>120 µmol/L) were included in this study. Patients with prior end-stage-renal-impairment on regular dialysis were excluded. All these patients for CT scan received Lopamidol, a non-ionic water soluble contrast medium with iodine concentration of 300mg/mL. The volume/dose of contrast given ranged from 70-100mLs. Based on eGFR level using the Cockcroft-Gault formula of 186 x (Creatinine/88.4)-1.154 x (Age)-0.203 x (0.742 if female), patients were categorised into 4 groups based on their severity: mild renal impairment (60-89mL/min), moderate (30-59mL/min), severe (15-29mL/min) and end stage renal impairment (<15mL/min). Post contrast creatinine levels were taken 48-72 hours. Decision to administer prophylactic N-acetylcysteine (NAC) or pre-scan hydration was decided by the nephrology team.

RESULTS

A total of 37 patients were included in this study with the mean age of 61 years old. Of the total, 20 patients fell into the moderate category of renal impairment, 8 had severe renal impairment and 9 had end stage renal impairment. The majority of the patients (n=21) were given both NAC and hydration before the scan as prophylaxis against CIN, while 8 were given hydration before the scan. The remaining 8 were not given any form of prophylaxis. Serum creatinine 48-72 hours post contrast were unchanged in 29 of the patients, while 6 had transient acute renal dysfunction and 2 had CIN. The 2 patients who developed CIN were known to have severe renal impairment. There was no significant difference in the outcomes of creatinine levels in patients who were given prophylactic NAC and hydration (p=0.447).

CONCLUSION

Patients with underlying renal impairment are predisposed to CIN. However, we conclude that prophylactic NAC and hydration has not shown to reduce the risk of CIN. Judicious use of CM in imaging is important to prevent CIN.

KEYWORDS

Contrast-Induced Nephropathy (CIN), N-acetylcysteine (NAC)

Research ID: 39328

Editorial notes: This study has not been submitted to the Medical Research & Ethics Committee, Ministry of Health Malaysia for review. This study requires more data to adequately describe the results but the editorial committee was unable to obtain the information from the researchers despite many attempts. Hence, results presented in this abstract are limited and incomplete.
OBSERVATIONAL STUDIES

COST ANALYSIS OF PRESSURE ULCER MANAGEMENT IN SPINAL CORD INJURY

Shivani Rajasegaran
Rehabilitation Medicine Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

The treatment of pressure ulcers (PrUs) among inpatients represents a significant cost to the healthcare system worldwide. In the UK, approximately £2.1 billion a year (nearly 4% of NHS budget) is spent on PrU management. In Malaysia, the public healthcare system is heavily subsidised, and health costs for Malaysians are borne by the government. The primary objectives of this study was to determine the costs of managing PrUs in spinal cord injury (SCI) patients over a 1-week duration and to compare the costs between a “full paying patient” (FFP) in the private sector and a patient in the public sector to estimate the economic burden of PrUs.

METHODOLOGY

This was a retrospective analysis of all SCI patients referred to the Rehabilitation Medicine Department of Hospital Sultan Ismail, Johor, over a 4-month duration in 2015. Patients with pre-existing PrU of stage II and above based on the National Pressure Ulcer Advisory Panel (NPUAP) Staging System 2007 were included in the study. Records of inpatients were reviewed over 7 consecutive days, as most PrU-related interventions (e.g. surgical debridement, wound dressing) were performed during this period. Resources included nursing time, dressings, antibiotics, diagnostic tests, pressure redistributing devices, and daily costs of standard care, as per the recommendations of NICE costing statement for PrU. For a patient in the public sector, the cost analysis did not include consultation/surgical/anaesthetist fees, admission charges, and consumables (antibiotics, blood products, phlebotomy charges) as these are subsidised [Fees (Medical) (Amendment) Order 2003]. For a patient in the private sector, the cost analysis was based on the ‘true cost’ of a FFP. We estimated the average weekly cost for a SCI patient with PrU.

RESULTS

58 patients’ records were reviewed, and 33 patients with pre-existing PrU of stage II and above were included. Of these 33 patients, 13 (39%) were tetraplegic and 20 (61%) were paraplegic. All 33 patients collectively had 55 PrU sites, and the sacrum was the commonest PrU site (85%). The average weekly cost of PrU management of a SCI patient in the government sector was RM1444. The cost increased with advancing PrU stage (stage II: RM 1161, stage III: RM1542, stage IV: RM1949). Compared to tetraplegics, a higher proportion of paraplegics had stage IV ulcers (8% vs. 30%). However, the average weekly cost for paraplegics (RM1398) and tetraplegics (RM1516) were similar. For a FFP in the private sector, the average weekly cost was RM4765, which was more than 3 times the cost of a subsidised patient in the government sector.

CONCLUSION

PrUs in SCI patients represent a significant cost burden in Malaysia’s health system, and the costs increase with ulcer stage. Results of this study provide useful information for managers assessing the health economic impact of PrUs in SCI patients.

KEYWORDS

spinal cord injury, cost analysis, pressure ulcer

NMRR-15-2034-27590

Editorial notes:
There are serious limitations to the design and results of this study. Note that the patients studied were only those from the managed in government hospitals. The cost for private patients was only estimated for comparison. A true cost analysis will have to be done prospectively done and record all the costs in both sectors, including hidden costs (loss of income of patient and/or carers, transportation costs, access to payment schemes, etc).
OBSERVATIONAL STUDIES

SEXUAL DYSFUNCTION AMONG PATIENTS WITH PHYSICAL DISABILITY

Shivani Rajasegaran
Rehabilitation Medicine Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Although the provision of services for people with disability has improved in Malaysia, there has been limited focus on sexual health and needs of the disabled. This research was directed towards determining the prevalence of sexual dysfunction among the disable particularly those afflicted by acute brain injury (ABI), spinal cord injury (SCI) and amputees. We further sought to correlate sexual dysfunction to the severity of the physical disability. We also sought to determine the degree of awareness among the disable of the existence of sexual dysfunction in them, their perception of sexual dysfunction and knowledge of the availability of hospital treatment for the problem.

METHODOLOGY

This cross-sectional study was done in the Rehabilitation Medicine Outpatient Clinic, Hospital Raja Permaisuri Bainun, Ipoh in October 2017. Brief Male Sexual Inventory (BSFI) had been utilised as the questionnaire tool and administered via face to face interview with our patients after informed consent have been obtained. Other relevant details including Modified Barthel Index (MBI), related personal details, perception of impotency vis-à-vis sexual dysfunction, knowledge of sexual dysfunction, and availability of treatment were also discussed in detail. A total of 32 physically disabled individuals were identified, recruited and participated in the research. Only those afflicted with physical disability for a minimum period of 6 months with intact cognition were included in the research.

RESULTS

All the 32 (100%) respondents who participated in the research were found to suffer from sexual dysfunction. 13 (40%) respondents were disabled due to Acquired Brain Injury (ABI), 6 (20%) due to Spinal Cord Injury (SCI), 10 (30%) were amputees and 3 (10%) had other conditions. The majority of respondents 29 (91%) were dissatisfied with sexual activity, with the main complaint being inability to achieve required degree of erection to achieve penetration or maintain erection. 26 (80%) of the participating individuals experienced loss of libido, ineffective erection and ejaculation related problems. 21 (65.5%) perceived and equated their physical disability to be the sole cause of their sexual dysfunction. Spearman correlation between MBI scores and total BSFI scores showed no significant correlation (r= 0.081; p=0.658). 19 (59.4%) of the respondents were unaware of the availability of hospital treatment for their problem. Instead, a worrying trend of afflicted individuals seeking traditional and/or over-the-counter remedies was noted.

CONCLUSION

Sexual dysfunction is a major issue among people with physical disability. All individuals need sexual health management regardless of their level of dependency.

KEYWORDS

sexual dysfunction, disable

NMRR-16-1664-31961
ANALYSIS OF MCV, MCH AND HCT/HB RATIO WITH A-GLOBIN GENOTYPES AMONG ELIGIBLE BLOOD DONORS IN LOCAL PRIVATE UNIVERSITY

Lai-Kuan Teh¹, Li-Fang Lim¹, Yu-Leong Teh², Tze-Yan Lee³, Lay-Ngor Lim¹, Elizabeth George⁴
1 Biomedical Science Department, Faculty of Science, Universiti Tunku Abdul Rahman (UTAR), Kampar, Perak
2 Pathology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
3 School of Foundation Studies, Perdana University, Serdang, Selangor
4 Assunta Hospital, Jalan Templer, Petaling Jaya, Selangor

INTRODUCTION AND OBJECTIVES

Thalassaemia is a public health concern in Malaysia and about 4.5% of Malaysian Chinese are α-thalassaemia carriers. The purpose of this study is to determine the mean cell volume (MCV), mean cell haemoglobin (MCH), and haematocrit/haemoglobin ratio (Hct/Hb) according to α-globin genotypes among eligible blood donors in Universiti Tunku Abdul Rahman (UTAR), Malaysia.

METHODOLOGY

A cross-sectional study was conducted between January and October 2017. Students and staff of all ages and both genders attending the blood donation campaign at UTAR were conveniently sampled into the study. During Hb screening of potential blood donors who provided informed consent to participate in the study, additional 3mLs of venous blood was collected in ethylenediamine tetraacetic acid (EDTA) vacutainers. Blood samples were sent to the Virology and Immunology Laboratory at the Biomedical Department on the same day for processing. Hb, Hct, MCV, and MCH levels were analysed using the Horiba ABX Micros ES 60 machine, and α-globin genotyping was conducted for seven deletions (-α3.7, -α4.2, -α20.5, --SEA, --THAI, --MED, --FIL), six point mutations [initiation codon (ATG→AGG), codon 30 (∆GAG), codon 35 (TCC→CCC), codon 59 (GGC→GAC; Hb Adana), codon 125 (CTG→CCG; Hb QuongSze), termination codon (TAA→CAA; Hb Constant Spring)], and two triplications (αααanti3.7 and αααanti4.2). Hct/Hb ratio was calculated by dividing Hct percentage by the Hb level (normal range: 2.9-3.2). Subjects with MCV ≤80 fL and MCH ≤27 pg were classified as having hypochromic microcytic anaemia. MCV, MCH, and Hct/Hb among genotypes were compared using ANOVA. A p-value <0.05 was considered statistically significant.

RESULTS

A total of 90 eligible blood donors were recruited. The study demonstrated five genotypes, consisting of αα/αα (69/90, 77%), -α3.7/αα (9/90, 10%), --SEA/αα (9/90, 10%), -α4.2/αα (2/90, 2%), and ααCS/αα (1/90, 1%). There was very strong evidence that MCV, MCH, and Hct/Hb were different among the five genotypes (p<0.001). Post hoc comparisons using the Tukey HSD test indicated that MCV of --SEA/αα (mean=65.9 fL, SD: 1.1) was significantly lower than that of αα/αα (mean=79.0 fL, SD: 6.4), -α3.7/αα (mean=80.6 fL, SD: 1.7), and -α4.2/αα genotypes (mean=78.5 fL, SD: 0.7). Similarly, MCH of --SEA/αα (mean=20.7 pg, SD: 0.7) was significantly lower than that of αα/αα (mean=26.2 pg, SD: 2.6), -α3.7/αα (mean=26.8 pg, SD: 0.7), and -α4.2/αα genotypes (mean=26.0 pg, SD: 0.7). Although Hct/Hb were within normal ranges, the Hct/Hb of --SEA/αα (Hct/Hb=3.18) was significantly higher than that of αα/αα (Hct/Hb=3.02) and -α3.7/αα (Hct/Hb=3.01) (p<0.001).

CONCLUSION

Our study results suggest that routine Hb of potential blood donors might not be able to detect α-thalassaemia silent carriers. MCV, MCH, and molecular characterisation may be alternative screening methods for silent carriers, especially among those with borderline MCV (≤ 80 fL) and MCH (≤ 27 pg).

KEYWORDS

α-thalassaemia, blood donors, MCV, MCH, Hct/Hb ratio
G6PD VARIANTS AMONG CHINESE STUDENTS IN A LOCAL PRIVATE UNIVERSITY

Lai-Kuan Teh¹, Kok-Mun Lee¹, Lay-Ngor Lim¹, Yu-Leong Teh²

1 Biomedical Science Department, Faculty of Science, Universiti Tunku Abdul Rahman (UTAR), Kampar, Perak
2 Pathology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Glucose-6-Phosphate Dehydrogenase (G6PD) deficiency is the most common form of enzymopathy of red blood cell among Chinese in Malaysia. The common variants are G6PD Kaiping and Canton. The aim of the study was to determine the residual of G6PD activity and to identify the genotypes for various G6PD variants among Chinese students in Universiti Tunku Abdul Rahman (UTAR) at Kampar Campus, Perak.

METHODOLOGY

The study was conducted from January till October 2017. The sample size was calculated based on Ainoon et al. (2004) that found the prevalence of G6PD among Malaysian-Chinese was 5%. A total of 146 blood samples from Chinese population were needed for this study. Chinese students in UTAR were recruited to participate in this study following relevant approval. Approval was obtained from UTAR scientific and ethic review committee (SERC) (U/SERC/97/2016) prior to commencement of the study. This study was conducted in concordance with the declaration of Helsinki. Written consent was obtained from each participating student. Residuals of G6PD activity level was determined using G6PD enzyme quantitation assay (OSMMR2000D/100C kit). Genomic DNA was extracted and followed by genetic analysis through polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) for four G6PD variants; G6PD Kaiping (1388 G>A at exon 12), Canton (1376 G>T at exon 11), Gaohe (95 A>G at exon 2) and Chinese-5 variants (1024 C>T at exon 9).

RESULTS

Residual of G6PD activity level and genotypes of G6PD variants were identified. Out of the 146 samples, four (4/146; 2.7%) were heterozygous G6PD Kaiping (XKaipingX) with residual G6PD activity level as 4.6 U/g Hb, two (2/146; 1.4%) were hemizygous G6PD Kaiping (XKaipingY) with residual G6PD activity level as 1.8 U/g Hb, three (3/146; 2.1%) were hemizygous G6PD Canton (XCantonY) with residual G6PD activity level as 2.4 U/g Hb, and one (1/146; 0.7%) was compound heterozygous G6PD Kaiping and Canton (XKaipingX Canton) with residual G6PD activity level as 2.8 U/g Hb and the rest of 137 (137/146; 93.8%) were wild type for four G6PD variants (XX or XY). Samples with hemizygous G6PD Kaiping (XKaipingY) were found with lower residual G6PD activity level compare to samples with hemizygous G6PD Canton (XCantonY). Through statistical analysis using One-way ANOVA, there was a statistically significant difference between the G6PD variants on residual enzyme activity level (p<0.001), indicating the level of G6PD deficiency is dependent on the inherited G6PD variants.

CONCLUSION

G6PD with Kaiping and Canton variants are common among Chinese students in UTAR. G6PD Kaiping was found to have lower residual enzyme activity level. Future study with larger sample size is needed to investigate the association between level of G6PD deficiency and inherited G6PD variants.

KEYWORDS

G6PD deficiency, Canton, Kaiping, Chinese, G6PD activity level

Editorial notes:
This wild type for four G6PD variants are most probably normal G6PD variants with no deficiency.
THE ACCURACY OF THE CARBAPENEM-RESISTANT ENTEROBACTERIACEAE-AF MEDIA IN IDENTIFYING CARBAPENEM-RESISTANT ENTEROBACTERIACEAE

Eida-Nurhadzira Muhammad, Nur-Diyana Mastor, Zahrul-Laili Abd-Hadi, Alex-Francis Lourdes
Pathology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

According to the World Health Organization, the turnaround time from incubation of Carbapenem-resistant Enterobacteriaceae (CRE) cultures to confirmation of its presence by polymerase chain reaction (PCR) could be as long as 48 hours. This leads to a delay in the isolation of infected patients, which might increase the possibility of an outbreak. A new bacteriological screening media—the CRE-AF media, was found to shorten the time to CRE confirmation as early as 20 hours. The aim of this study was to determine the sensitivity and specificity of the CRE-AF media compared to PCR (gold standard).

METHODOLOGY

A cross-sectional study was conducted in October 2016 using samples (mixture of rectal swabs, blood culture samples, and others) sent from government hospitals nationwide to the Institute of Medical Research (IMR) for CRE confirmation. A total of 98 of these isolates were subjected to a PCR assay to confirm the presence of carbapenemase encoding genes (i.e. presence of CRE). These isolates were subsequently inoculated on a standardised CRE-AF media containing 0.5 McFarland standard. Cultures were observed for growth, colony morphology, and time taken to yellow discolouration of the media (considered culture positive). We evaluated the growth of CRE on these media at controlled intervals of 18-24 hours and >24 hours of incubation at 37°C.

RESULTS

Of the 98 isolates tested by PCR, 50 were positive for CRE and 48 were negative. From the 50 PCR-positive CRE cultures, 46 grew yellow colonies on the CRE-AF media within 24 hours of incubation. All 48 PCR-negative CRE cultures did not produce yellow coloured colonies on the CRE-AF media within the same time interval. Compared to PCR, the sensitivity of the CRE-AF media was 92% (95% CI: 80, 97), and the specificity was 100% (95% CI: 91, 100). The positive predictive value and negative predictive value of the CRE-AF media was 100% (95% CI: 90, 100) and 92% (95% CI: 81, 98) respectively. In a separate study using 80 rectal swabs of patients and contacts in Ipoh Hospital, 48 (96%) out of 50 PCR-positive CRE cultures grew yellow colonies on the CRE-AF media.

CONCLUSION

In this study, the CRE-AF media demonstrated high sensitivity and specificity in the identification of CRE within 24 hours of incubation. However, a prospective study using consecutive samples is needed to confirm the sensitivity and specificity of this media.

KEYWORDS

CRE-AF media, Carbapenem-resistant Enterobacteriaceae (CRE)

Research ID: 34138

Editorial notes:
This study has not been submitted to the Medical Research & Ethics Committee, Ministry of Health Malaysia for review.
WEIGHING PRESSURISED METERED DOSE INHALER (PMDI) AS DOSE COUNTING METHOD

Gobi-Hariyanayagam Gunasekaran, Syazwan-Faiz Kamal-Al-Arif
Pharmacy Department, Hospital Seri Manjung, Manjung, Perak

INTRODUCTION AND OBJECTIVES

Pressurised metered-dose inhalers (pMDIs) in Malaysia are not equipped with dose counters, so estimating the doses remaining is difficult. The float test has been reported to be an inaccurate estimation method. We compared the float test to the weight method in estimating the doses remaining in pMDIs returned to the pharmacy.

METHODOLOGY

We first constructed an equation to predict the doses remaining in a pMDI according to its weight. We weighed new pMDIs containing varying doses of 5 different drugs [salbutamol (GSK) 200 doses, budesonide (Glenmark) 300 doses, ipratropium/ fenoterol (Boehringer) 200 doses, fluticasone (GSK/innovator) 120 doses, fluticasone (Cipla/generic) 120 doses, and beclomethasone (Ivax) 200 doses] using a laboratory scale (Sartorius R200D; 0.01g accuracy). A pilot test indicated low variability between weights of pMDIs in grams of the same drug (SD range: 0.03, 0.08). Two of each pMDI were weighed after each actuation, with a 30-second inter-puff interval, and the mean weight was recorded. To minimise variability in measurements, weighing was limited to one operator. The canister was considered empty when there were no changes in weight after repeated actuations. The prediction equation (one for each pMDI) was the line of best fit through data points on the scatter plot of number of actuations versus weight. Returned pMDIs were then used to compare the float test and the weight method. For the float test, the canister was placed in a container of water. Based on its position in the water, the pMDI was categorised as 1=empty, 2=½ full, 3=¾ full, 4=full, or 5=full. For the weight method, canisters were weighed, and doses remaining were calculated using the prediction equation, and further categorised as above. We compared the percentage of empty pMDIs between the two methods.

RESULTS

5 prediction equations were generated for the 5 types of pMDIs, where the general equation is: Doses remaining = Constant + β*pMDI weight. A total of 4517 pMDIs were returned to the pharmacy, of which 2131 (47%) were salbutamol, 1149 (25%) budesonide, 685 (15%) ipratropium/ fenoterol, 340 (8%) innovator fluticasone, 182 (4%) generic fluticasone, and 30 (1%) beclomethasone. Overall, the float method classified 75% pMDIs as empty, compared to 71% by the weight method. The percentage of empty salbutamol, generic fluticasone, and beclomethasone pMDIs were similar between both methods. A higher percentage of budesonide pMDIs were classified as empty by the float method compared to the weight method (62% vs. 37%). The float method underestimated the percentage of empty innovator fluticasone pMDIs compared to the weight method (77% vs. 84%). For ipratropium/fenoterol pMDIs, the float method did not identify any empty canisters, but 82% were classified as empty by the weight method.

CONCLUSION

This study produced a prediction equation that can be used to estimate remaining doses in a pMDI based on its weight. There were differences in the identification of empty pMDIs between the float test and the weight method, which varied by drug. The weight method may be used to measure doses remaining in pMDIs returned to the pharmacy, as well as patients’ adherence to pMDIs. Further studies are needed to confirm the reliability and validity of the weight method.

KEYWORDS

pressurised metered dose inhaler, weight method, float method

NMRR-16-2220-33244
A CASE REPORT: LEFT ATRIAL MYXOMA PRESENTED AS AN ST-ELEVATION ON ECG

Mohd-Nor Mohd-Firdhaus, Abdul-Kader Izruf-Qabil, Mohd-Ghazali Effendi, Anuar Azmir, Wai-Mun Chung
Emergency & Trauma Department, Hospital Taiping, Taiping, Perak

INTRODUCTION AND OBJECTIVES

Atrial myxoma is the commonest primary benign cardiac tumour in which embolic complications occur in 1/3 of patients. We report a case of left atrial myxoma which initially presented with typical angina and ECG-documented ST-elevation, which was later diagnosed as a left intra-atrial mass. This report highlights the pivotal role of bedside echocardiography in an emergency setting.

CASE PRESENTATION

A 40 year-old Malay lady with no known medical illness and cardiovascular risk factors, presented to a general practitioner with sudden onset of localised left chest pain (pain score of 10/10). The chest pain was associated with diaphoresis, palpitation, giddiness, nausea, and worsened on exertion. The patient was given a dose of sublingual glyceryl trinitrate (GTN) and subsequently referred to the emergency department (ED). On arrival at ED, the patient was comfortable with pain score of 2/10. Her vital signs were stable and physical examinations were unremarkable. Serial ECGs showed ST-elevation at chest leads “II, III, aVF” with posterior involvement and reciprocal changes over leads “I” and “aVL”. Bedside echocardiography revealed left intra-atrial mass, measuring 2.1cm × 3.4cm with left ventricular ejection fraction (LVEF) of 61%.

As there was no evidence of hypokinesia, thrombolytic therapy was withheld. The patient was immediately given aspirin 300mg and clopidogrel 300mg orally. Femoral coronary angiogram showed normal coronary arteries. The cardiothoracic team proceeded with median sternotomy and excision of the left intra-atrial mass. Formal histopathology examination confirmed atrial myxoma. At follow up one-month post-sternotomy, she was symptom-free and was able to resume normal daily activities.

CONCLUSION

A high suspicion of atrial myxoma should be considered in patients with no cardiovascular risk factors who present with myocardial infarction. Echocardiography is a reliable tool to aid the diagnosis of myxomas.

KEYWORDS

left atrial myxoma, ST-elevation on ECG
DATURA FRUIT POISONING

Wai-Mun Chung, Yee-Yau Chian, Azmir Anuar
Emergency & Trauma Department, Hospital Taiping, Taiping, Perak

INTRODUCTION AND OBJECTIVES

Datura contains tropane belladonna alkaloids which might cause serious multisystem adverse effects. This case report illustrates synchronous occurrence of poisoning in a married couple after consuming Datura.

CASE PRESENTATION

A 41 year-old healthy Burmese lady with no known comorbidities presented to emergency department (ED) together with her husband. Her chief complaint was giddiness. Otherwise, she denied any abdominal pain, vomiting, or diarrhoea. Two hours prior to presentation, she ingested a minimal amount (unable to quantify) of Datura. The fruit was brought along by the patient and its identity confirmed by emergency physicians. She had a history of consuming the same fruit previously (this was not the first time she cooked the fruit) but did not experience any symptoms. She did not have any mood disorders, suicidal or homicidal ideation, or a history of drug abuse. On physical examination, she was mildly restless but not agitated and was able to obey commands. Her skin was flushed and pupils were dilated (5mm/5mm). Her blood pressure was 129/76 mmHg, pulse rate 104 beats/min, respiratory rate 22 breaths/min, and temperature 37.5°C. Full blood count, renal profile, capillary blood sugar, and urine FEME were normal. Electrocardiogram (ECG) showed sinus tachycardia. 30g of activated charcoal was given as an oral suspension in the ED. Subsequently, activated charcoal 50g was given orally every 4 hours in the ward. Her symptoms improved and she was discharged the following day with 2 doses of activated charcoal 250mg.

The husband of the Burmese lady above, a 47 year-old healthy Burmese gentleman with no known comorbidity presented to the ED together with his wife. He was restless and showed abnormal behaviour. His wife claimed that her husband was disorientated, and had communication and visual disturbances. Two hours prior to presentation, he ingested 5 to 6 well-cooked Datura. He did not have mood disorders, suicidal or homicidal ideation, or a history of drug abuse. On arrival, his blood pressure was 145/73 mmHg, pulse rate 126 beats/min, respiratory rate 25 breaths/min, and temperature 37.7°C. He appeared restless, delirious, and agitated with a Glasgow Coma Scale (GCS) of 14/15. He was flushed and pupils were dilated (5mm/5mm). He was able to move all four limbs and reflexes were normal. CT of the brain was not done. ECG revealed sinus tachycardia. Full blood count, renal profile, capillary blood sugar, and urine FEME were normal. 30g of activated charcoal was given as an oral suspension in the ED. 2 doses of intravenous midazolam (1mg and 1.5mg an hour apart) were given to reduce agitation. He was admitted to the ward for further observation. He remained symptom-free and was discharged after 24 hours without any medications.

CONCLUSION

Datura, a genus of the family Solanaceae, has anticholinergic properties which on consumption, produce classical anticholinergic symptoms ranging from mild to severe. It is imperative that clinicians recognise toxidromes timely and accurately so that appropriate treatment can be initiated.

KEYWORDS

Datura fruit, poisoning, toxidrome
A CASE REPORT OF HASHIMOTO’S ENCEPHALOPATHY

Chui-Yee Lee, Vee-Chian Wee, Chun-Fai Cheah
Neurology Unit, Medical Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Hashimoto’s encephalopathy is a rare idiopathic neurological disorder associated with the presence of anti-thyroid antibodies. Its prevalence is 2.1 in 100,000 population and the pathophysiology, presentation, diagnosis and treatment still remains a challenge. This case report describes a patient with a complex presentation of Hashimoto’s encephalopathy.

CASE PRESENTATION

A previously healthy 60 year-old woman presented to our casualty department after developing confusion, visual hallucination, recurrent left hemiparesis with focal and generalized seizures for the duration of 9 months. It was associated with a gradual cognitive decline. Upon eliciting a full history from the patient’s husband, there was no remarkable history other than the presenting complaints. It was documented that the patient did not have any prior histories of thyroid issues. Upon examination, the patient’s Glasgow Coma Scale (GCS) was 14 (E4V4M6) and appeared confused. Thyroid examination was normal. Examination of the central nervous system revealed left homonymous hemianopia, left facial and limb weakness with a focal seizure and dysarthria. Thyroid function blood test and CT brain scan were performed and revealed normal findings. The patient was admitted to the ward for further observation and investigations. In the ward, paraneoplastic and autoimmune screenings which included serum anti-thyroid antibodies were performed. It was found that her thyroid peroxidase antibody level was raised to 141 IU/mL (normal: <60 IU/mL). All other serology results were not significant. Cerebrospinal fluid examination was performed and its results were unremarkable. Electroencephalogram findings were consistent with moderate encephalopathy with epileptiform discharges from right hemisphere. A magnetic resonance image of the brain showed T2/FLAIR signal abnormalities at right temporo-parieto-occipital and hippocampus region.

A diagnosis of Hashimoto’s encephalopathy was considered and she was treated with oral prednisolone 40mg, levetiracetam 750mg twice and sodium valproate 400mg thrice daily. The patient’s seizures were well controlled and alertness improved (GCS 15). Her weakness, visual field defects and hallucination gradually resolved. However, she still experienced occasional facial myoclonus with some amount of short term memory loss. The patient was discharged home well after 1 week but was re-hospitalized on 2 separate occasions within 2 weeks for worsened seizure control and a relapse remitting course of neuropsychiatric symptoms. She was treated with intravenous methylprednisolone 1000mg daily and intravenous immunoglobulin (IVIG) 0.4mg/kg/day, both for 5 days to control her symptoms. Despite this course of treatment, her neuropsychiatric symptoms fluctuated daily. Hence a second cycle of IVIG was administered 40 days later. After the second cycle of IVIG, her confusion resolved, she was seizure-free but still elicited mild cognitive dysfunction. She was discharged with oral prednisolone 40mg, levetiracetam 750mg twice, sodium valproate 400mg thrice daily. She was followed up at the department’s neurology clinic.

CONCLUSION

Hashimoto’s encephalopathy is a diagnosis of exclusion. It is often under-diagnosed because of its subtle and varied manifestations. It can occur in the absence of thyroid disease. As the symptoms may respond to immunosuppressive treatment, it is important to be aware of the clinical presentation in order to make the correct diagnosis and provide prompt management.

KEYWORDS

Hashimoto’s, anti-thyroid antibody, autoimmune encephalopathy

NMRR-17-2678-39282
A CASE SERIES OF DERMATOLOGICAL EMERGENCIES – ERYTHRODERMA

Thai-Lun Tan, Wai-Mun Chung
Emergency & Trauma Department, Hospital Taiping, Taiping, Perak

INTRODUCTION AND OBJECTIVES

Erythroderma is a dermatological emergency defined as erythema and scaling occurring in a generalised distribution involving more than 90% of the total body surface area. Widespread alteration of skin functions could result in a number of complications which are known collectively as acute skin failure. This case series is a prospective review of 3 patients who presented to Emergency Department of Hospital Taiping. It underscores the importance of recognising erythroderma and early referral to health institutions equipped with physicians experienced in treating such dermatological diseases.

CASE A: ERYTHRODERMIC PSORIASIS SECONDARY TO DISCONTINUATION OF MEDICATIONS

A 37 year-old male prisoner, known Hepatitis C carrier, plaque psoriasis and psoriatic arthritis mutilans, presented with generalised body rashes involve his entire body surface area within two weeks’ durations after stopping his medications. There was generalised arthralgia with fever for four days. At presentation, he was pyretic with temperature of 37.4°C but was otherwise stable. There was generalised erythema and diffuse thick crusted plaques involving all body surface area. During admissions, patient was closely monitored and was treated with oral retinoid therapy, topical corticosteroid, topical emollients and completed one course of antibiotic. He was eventually discharged well at day 13 of admission.

CASE B: DRUG INDUCED EXFOLLIATIVE DERMATITIS

A 74 year-old gentleman with no pre-existing dermatosis, nor prior medical problems presented with generalised skin itchiness associated with diffuse skin erythema for one month associated with bilateral lower limb swelling of two weeks’ duration. He had fever for two days prior to presentations. For the past one month, he had contacted local health clinics as well as Emergency Department however his condition was not settled with topical ointment, antihistamines and oral prednisolone. He was on oral antibiotics for his urinary tract infection prior to current presentation. He was afebrile but appeared dehydrated with tachycardia. Generalised erythema and scaly lesions were distributed throughout his entire body surface area.

He was admitted for four days for medical stabilisation and was diagnosed to have drug induced exfoliative dermatitis based on the skin biopsy HPE results. Patient was arranged for further work-up on paraneoplastic syndrome with cutaneous manifestations.

CASE C: ERYTHRODERMIC PSORIASIS SECONDARY TO NON-COMPLIANCE TO MEDICATIONS

A 30-year-old gentleman, with underlying plaque psoriasis, presented with bilateral knee pain for one week associated with rapid worsening of psoriatic plaques within three-week duration involving the whole-body surface area. He had on and off fever. He had poor compliance to medications. At presentations, he was haemodynamically stable with fever recorded as 37.8°C. He had generalised scaly plaques over entire body with underlying erythematous skin. Both knees were mildly swollen and tender on palpation. Range of movement of both knees was restricted due to pain. He was admitted was started on oral ciclosporin, topical steroids and topical emollients. He was discharged well at day four of admission.

CONCLUSION

The recognition of dermatological emergencies is imperative in initiating prompt treatment for erythroderma, acute skin failure, and potential multiorgan failure. It is important that doctors working in the emergency setting gain the relevant knowledge and experience in treating dermatological conditions to ensure timely and appropriate treatment for patients.

KEYWORDS

erythroderma, acute skin failure, dermatological emergencies

ACYCLOVIR NEUROTOXICITY IN A PATIENT WITH END-STAGE RENAL FAILURE ON PERITONEAL DIALYSIS: A DIAGNOSTIC DILEMMA

Christopher Sze-Bing Sim¹, Brian Mun-Keong Cheong¹, Yee-Yan Lee²
1 Medical Department, Hospital Teluk Intan, Teluk Intan, Perak
2 Nephrology Unit, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Acyclovir is an antiviral used to treat herpes simplex and Varicella/Herpes zoster infections. It is effective and generally well tolerated. Neurological side effects are uncommon, and these include headache, dizziness, aggression, confusion, ataxia, seizures, and coma. As approximately 90% of acyclovir is excreted by the kidneys, therapeutic doses may cause severe adverse effects in patients with impaired renal function. This case report highlights a case of acyclovir toxicity in a patient with End-Stage Renal Failure (ESRF).

CASE PRESENTATION

A 72 year-old lady with a history of hypertension, dyslipidaemia, hyperthyroidism and ESRF, was admitted to the Nephrology Unit for intermittent peritoneal dialysis (IPD) via a Tenckhoff catheter. She was unable to undergo Continuous Ambulatory Peritoneal Dialysis (CAPD) at home due to unsuitable home conditions. On the last day of admission, she was diagnosed with herpes zoster infection. Multiple small, firm and clear vesicles were noted over her left cheek (along the trigeminal nerve maxillary division) without any lymphadenopathy. She was started on oral acyclovir 800mg twice daily (renal dose adjustment) and was discharged home after completing a 1-week course of acyclovir. However, the patient was brought into the Emergency Department the following day due to sudden altered mental status. According to family members, she had not experience fever, seizures or any focal neurological deficits nor suffer any physical trauma. On examination, she was confused with an initial Glasgow Coma Scale (GCS) of 11 (E4V2M5). She was afebrile, with stable vital signs, and there were no other signs suggestive of meningitis. Her muscle tone and reflexes were normal, and the power in all 4 limbs were 4/5. Computed Tomography (CT) of the brain was normal. White cell count was normal (9.0 X 10⁹/L) but serum creatinine was elevated (908 µmol/L). In view of her recent history of herpes zoster infection, she was diagnosed with viral encephalitis.

She was admitted and started on Intravenous (IV) ceftriaxone 2g twice daily and IV acyclovir 800 mg daily. A lumbar puncture was performed immediately, and the Cerebrospinal Fluid (CSF) polymerase chain reaction for herpes simplex virus infection was reported to be negative. Despite treatment, her GCS remained the same from the time of admission although she remained afebrile. In the ward, she continued her scheduled IPD regime. No organism was isolated from blood & cerebrospinal fluid cultures. On day seven of admission, a diagnosis of possible acyclovir neurotoxicity was considered in view of her poor response to the given treatment, and acyclovir was stopped immediately. This led to a marked improvement of the GCS score (15/15) when assessed the next day. There were no residual neurological deficits and she was subsequently discharged home well. After discharge, she was able to perform her activities of daily livings independently.

CONCLUSION

Acyclovir may cause adverse events, including neurotoxicity, particularly in patients with renal impairment, despite dosage adjustment. Physicians should consider neurotoxicity in these groups of patients if they present with altered sensorium. Signs suggestive of neurotoxicity include a history of acyclovir use, the lack of fever, normal brain CT, as well as culture- and PCR-negative. Withholding the drug usually lead to complete recovery. Haemodialysis may be required in severe cases.

KEYWORDS

acyclovir, Continuous Ambulatory Peritoneal Dialysis (CAPD), neurotoxicity, haemodialysis
INTRODUCTION AND OBJECTIVES

Dengue has a wide spectrum of clinical manifestations, often with unpredictable clinical evolution and outcome. Typically, the critical period starts when the temperature drops less than 38°C, usually on day 3 to day 7 of illness. These two cases report severe dengue with hypotensive shock in early febrile phase.

CASE PRESENTATION

CASE 1

A 20 year-old Chinese gentleman with no known comorbidities presented to the emergency department 16 hours after the onset of fever. He had low grade fever associated with chills, rigors, diarrhoea, rashes, headache and an episode of vomiting. He resides in a dengue endemic area. On examination, he was alert and conscious with good peripheral perfusion. He was febrile (38°C), with low blood pressure (77/40 mmHg) and was tachycardic (pulse rate of 120 beats/minute). Initial blood counts showed mild leukopenia, thrombocytopenia and low haematocrit (white blood cells 5.1X10³/uL, haemoglobin 12.8X10³/uL, platelet 96X10³/uL and haematocrit 36.8X10³/uL). His renal, liver and coagulation profiles were normal. Initial lactate was high (3.6mmol/L) and venous bicarbonate was normal (20.5mmol/L). Dengue NS-1 antigen was positive. Unfortunately no dengue serology was taken for this patient. He was diagnosed to have severe dengue with hypotensive shock. He was resuscitated with 2 cycles of 20mls/kg crystalloids for 30 minutes. Subsequently, decision was made to transfuse two pints of whole blood in view of persistently low haematocrit (baseline 36.8%, after first bolus 36.1%). He was subsequently warded in ICU for six days before being transferred to general ward. He was discharged well.

CASE 2

The second case involves a 20 year-old Indian Muslim gentleman with childhood asthma. He complained of fever associated with lethargy, myalgia, arthralgia, retro orbital pain, backache and one episode of vomiting. He presented to the emergency department on the same day of symptom onset. He was febrile (39.4°C), tachycardic (pulse rate of 140 beats/minute) and had low blood pressure (80/50 mmHg). On examination, he was alert, but peripheries were cold with capillary refill time was more than two seconds. The initial blood counts were normal. (White blood cells 7.9x10³/uL, haemoglobin 15.4X10³/uL, platelet 211X10³/uL and haematocrit 42.1%). Serum lactate and bicarbonate were normal (1.7 mmol/L and 22 mmol/L respectively). Dengue NS-1 antigen was positive, while initial dengue serology (IgM) was negative. The diagnosis of severe dengue with hypotensive shock was made. Patient was given crystalloids boluses of 20mls/kg twice. He was transfused 1 pint of whole blood in view of drop in haematocrit. (Haematocrit was 42.1% baseline, 38.4% after first bolus and subsequently dropped further to 36.1%). He was subsequently warded in ICU for seven days before transferred to general ward. He was discharged well. IgM dengue serology was repeated as outpatient on day 7 illness which was negative and day 14 illness which was positive.

CONCLUSION

Both patients presented during the early febrile phase with hypovolaemic shock. Since they had no evidence of plasma leakage, conclusion made that both were having significant occult bleeding leading to hypovolemic shock. Early recognition of the plasma leakage or bleeding with prompt resuscitation helps to reduce morbidity and mortality in dengue.

KEYWORDS

severe dengue, hypotensive shock, occult bleeding, early febrile phase

NMRR-15-1561-27782
CASE REPORT: ANTI-NMDA-RECEPTOR ENCEPHALITIS FOLLOWING DENGUE FEVER

Senamjit-Kaur1, Daniel Wong1, Li-Ann Chong1, Pek-Yong Lim1, Joo-Thye Cheng1, Chun-Fai Cheah2
1 Medical Department, Hospital Raja Permaisuri Bainun, Ipoh Perak
2 Neurology Unit, Medical Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Anti-N-methyl-D-aspartate receptor (anti-NMDA-R) encephalitis is an immune-mediated syndrome that has been predominantly described in young female with a constellation of symptoms that include neuropsychiatry, autonomic dysfunction and neurologic decompensation. It is commonly associated with ovarian teratoma. There are literatures that suggest immunologic triggers contribute to the production of auto-antibodies thus causing autoimmune encephalitis. This case report describes a case of anti-NMDA-R encephalitis following dengue fever, without evidence of any underlying tumors.

CASE PRESENTATION

A 15 year-old boy, with no known medical illness, presented to Emergency Department due to worsening confusion, agitation, development of episodes of generalized tonic clonic seizures and auditory hallucinations. He was admitted on Day 1 and nursed at private hospital for dengue fever 2 weeks prior to this illness. Dengue serology was obtained and IgM was positive. On examination, he was encephalopathic, febrile 38°C without focal neurologic deficits or meningeal signs. His platelet and white cell count (WBC) was 246X10³/uL and 15X10³/uL respectively. Repeated serum Dengue IgM was negative. Computer tomography of the brain was normal. He was presumed to have post viral meningoencephalitis and was treated empirically with IV Acyclovir 500mg TDS and IV Ceftriaxone 2g BD for 10 days by the medical team. Upon discussion with the psychiatric team, haloperidol was given when necessary. On day 3 a lumbar puncture was performed. Cerebrospinal Fluid (CSF) showed mild elevation of lymphocytes and protein level. However, the CSF was negative for VDRL, acid fast bacilli, gram stain, Mycobacterium tuberculosis PCR and bacterial cultures. Patient’s viral hepatitis B, C and HIV were negative. Family opted for discharge to seek traditional treatment.

A week later the patient was re-admitted due to worsening of symptoms. He experienced marked auditory and visual hallucination and became catatonic with fever. On examination, the patient Glasgow Coma Scale was E4V2M5 with no seizure, autonomic disturbance or involuntary movement noted. He was febrile. His WBC and creatinine kinase levels were 25X10³/uL and 1645 u/L respectively. Computerized Tomography of brain was unremarkable. Due to previous hospitalization and treatment with haloperidol a differential diagnosis of nosocomial infection and neuroleptic malignant syndrome were considered. Magnetic resonance imaging brain on day 4 of admission showed focal right frontal encephalitis. Neurologist’s opinion was sought and further differential diagnosis of limbic/autoimmune encephalitis was considered. The patient was treated with IV Immunoglobulin (0.4g/kg/day) and IV methylprednisolone 1g OD for 5 days and discharged.

1 week post-discharge, patient was seen at outpatient care and had achieved rapid progressive cognitive and clinical improvement. He was later discharge from psychiatric care but has since defaulted further neuromedical appointments. A month later the patient’s Anti-NMDA-R antibodies in serum and CSF were reported as positive and Dengue PCR revealed DEN3 positive. Serum beta Human Chorionic Gonadotropin, Cancer Antigen 199, Cancer Antigen 125, α-feto-protein, Carcinoembryonic antigen were tested for possible malignancy and they were negative.

CONCLUSION

Autoimmune encephalitis should be considered as a differential diagnosis in any patient presenting with unresolved encephalitis, especially in patients with neuropsychiatry symptoms that are not better explained by other disease processes.

KEYWORDS

dengue, anti-NMDA encephalitis
CHOKING IN A PATIENT WITH PARKINSON-PLUS SYNDROME

Wai-Keat Chung1, Nariman Singmamae2
1 Emergency Unit, Sarawak Heart Centre, Kota Samarahan, Sarawak
2 Emergency Unit, Universiti Malaysia Sarawak (UNIMAS), Kota Samarahan, Sarawak

INTRODUCTION AND OBJECTIVES

Parkinson-Plus Syndrome (PPS) is a group of rapidly progressive debilitating neurodegenerative disorders with high risk of mortality from its complications. We present a case of choking initially unrecognised in a patient with Parkinson-Plus Syndrome.

CASE PRESENTATION

A 74 year-old Chinese lady was brought to the Emergency Unit by her daughter-in-law due to acute left-sided body weakness. She was haemodynamically stable. Neurological examination revealed increased tonicity over bilateral upper and lower limbs but no cogwheel-rigidity. Reflexes over all four limbs were normal. She was initially diagnosed to have a stroke and was immediately scheduled for a Computed Tomography (CT) of the brain. Three attempts of nasogastric tube insertion failed and her condition deteriorated despite corrective measures performed. She was then up-triaged to the red zone for resuscitation. During rapid-sequence intubation, remnants of a bun were found lodged in the larynx, which was manually removed to clear the airway. Further history was taken from the patient’s son when he arrived half an hour after the patient’s presentation to the ED. He revealed that his mother was diagnosed with PPS 6 months ago by a neurologist, who advised against active resuscitation if the patient’s condition worsened. Family members of the patient were advised on nasogastric tube insertion to prevent aspiration, but they disagreed despite knowing the consequences. Two hours later, the patient was extubated after regaining full consciousness and spontaneous breathing. She was well supported under high flow oxygen and was admitted to the geriatric ward for further observation. The on-call geriatrician recommended feeding via nasogastric tube to prevent future choking episodes. The patient was discharged two days later, with a nasogastric tube in-situ.

CONCLUSION

Patient with PPS suffer from various degrees of movement problems and some might have speech difficulties. They might not be able to display the universal choking sign. Adequate history taking and physical examination are essential to assess the possibility of choking in patients with PPS. A Parkinson’s alert card or bracelet would be useful for all patients with Parkinson’s Disorders so that medical practitioners will be able to manage such patients appropriately.

KEYWORDS

Parkinson-Plus Syndrome, choking

NMRR-17-155-34336
CHURG-STRAUSS SYNDROME – A RARE SYSTEMIC VASCULITIS WITH AN ELEMENT OF AUTO-IMMUNITY

Jo-Ee Lam, Ray-Yank Tang
Medical Department, Hospital Teluk Intan, Teluk Intan, Perak

INTRODUCTION AND OBJECTIVES

Eosinophilic Granulomatosis with Polyangiitis (eGPA), also known as Churg-Strauss syndrome, is a rare condition characterised by systemic necrotising vasculitis that affects small to medium-sized vessels, and is associated with asthma and blood and tissue eosinophilia. The diagnosis of Churg-Strauss syndrome is challenging due to the myriad of clinical presentations. We report a case of Churg-Strauss Syndrome with systemic vasculitis.

CASE PRESENTATION

A 48 year-old lady presented to our hospital with fever, generalised malaise, arthralgia, and myalgia for the past two weeks. She also had two episodes of transient visual loss (lasting 20 minutes each). Further medical history revealed that she was diagnosed with bronchial asthma 4 years ago, and that she was undergoing follow-up for amaurosis fugax as well as subclinical hypothyroidism. On examination, her vital signs were within normal limits. A neurological examination revealed proximal bilateral weakness over upper and lower limbs with bilateral foot drop. Examination of other systems were unremarkable. A routine blood investigation showed leucocytosis (25.5x10³/µL) with predominant eosonophilia (15.5x10³/µL), and elevated C-reactive protein (63mg/dL) and erythrocyte sedimentation rate (69mm/hr). Her renal function was normal. Anti-Nuclear Antibody test (ANA) was negative, and levels of complement factors C3 and C4 were normal. She was also tested for Anti-Neutrophil Cytoplasmic Antibody (ANCA) and rheumatoid factor, and was found to have raised levels of anti-myeloperoxidase (86 IU/ml) and anti-thyroperoxidase (374 IU/ml). Physicians conducted a bone marrow aspiration, which showed hypereosinophilia but no excess of blasts. Molecular testing for fusion types of Acute Myeloid Leukaemia (AML) were negative. The diagnosis of ANCA positive vasculitis was made based on these findings. A sural nerve biopsy revealed an axonal neuropathy consistent with eGPA.

She was started on an initial dose of oral prednisolone 1mg/kg once daily that was tapered down over 8 weeks (reduction of 5mg every 2 weeks). However, upon dose tapering, she suffered 2 relapses of her presenting symptoms which prompted physicians to administer a pulse therapy of IV methylprednisolone 500mg OD for 3 days, concurrently with oral methotrexate 10mg weekly. After completing this treatment, she showed clinical improvement in muscle power. Repeat laboratory investigations showed a reduction of eosinophil counts (2.15x10³/µL). She was subsequently planned for immunosuppressive therapy consisting of 6 cycles of IV cyclophosphamide at 15mg/kg infused over 24 hours once every 2 weeks in addition to oral prednisolone 50mg OD. There was no recurrence of visual symptoms after the 2nd cycle of cyclophosphamide. However, prior to the 5th cycle, the patient was admitted to the hospital because of fever and generalised abdominal pain. Laboratory investigations showed elevated white cell count of 22.0x10³/µL with 77.3% neutrophils. She was started on IV tazosin 4.5g QID but died of sepsis.

CONCLUSION

The presence of eosinophilia may be easily overlooked and this may delay further investigations. Laboratory findings of eosinophilia in combination with the presence of bronchial asthma, limb weakness, and amaurosis fugax should raise suspicion of possible Churg-Strauss syndrome. Early recognition of multi-organ involvement, particularly renal, cardiac, cerebral, gastrointestinal, and pulmonary systems is important, to avoid delay in treatment and to minimise mortality in eGPA.

KEYWORDS

Churg-Strauss Syndrome, immunosuppresion, eGPA, vasculitis

NMRR-17-2175-37159
CASE REPORTS AND CASE SERIES

CYTOMEGALOVIRUS PNEUMONIA IN AN IMMUNOSUPPRESSED PATIENT

Tjen-Jhung Lee, Wei-Ching Leong, Brian Mun-Keong Cheong
Medical Department, Hospital Teluk Intan, Teluk Intan, Perak

INTRODUCTION AND OBJECTIVES

Cytomegalovirus (CMV) is an uncommon infection in the general public but not in immunocompromised patients, especially in patients with Retroviral Disease (RVD). This report presents the diagnostic process and treatment of a patient newly diagnosed with RVD complicated by CMV induced pneumonia.

CASE PRESENTATION

A 46 year-old man presented with a month’s history of progressive dyspnoea, dry cough, oral ulcers, and constitutional symptoms. Upon eliciting further history, he admitted that he practices unprotected sexual intercourse with other men. On examination, he was tachypnoeic and required high flow oxygen supplementation to maintain oxygen saturation. There were fine end-inspiratory crepitations in the middle and lower lobes of both lungs. Other relevant findings included the presence of oropharyngeal candidiasis. A diagnosis of atypical pneumonia with probable underlying immunosuppression was made. A rapid HIV test revealed a positive result for RVD. A subsequent routine RVD test (HIV ELISA and Particle Agglutination) was positive. The patient’s CD4 count was low (14 cells/µL) and HIV RNA viral load was detected at high levels (288,482 copies/mL). A chest X-ray showed ground glass opacities in the mid and lower zones of both lungs. A High Resolution Computed Topography Scan of the Thorax further indicated diffuse reticular opacities with ground glass pattern and interlobular septal thickening. These changes were reflective of pneumonitis, co-relating with the patient’s clinical presentation. A direct smear sputum for Acid Fast Bacilli (AFB) was ordered along with other blood cultures. Three AFB samples taken upon admission were negative. Investigations to test for the presence of Pneumocystis Jirovecii pneumonia was conducted. However, routine clinical examinations like the 6-minute walking test and bronchoalveolar lavage (for culture samples) were not carried out due to patient’s severe respiratory distress.

The patient was initially treated with intravenous (IV) Ceftazidime 1g 8-hourly, oral Azithromycin 500mg daily as well as IV Co-trimoxazole 1600/320 8-hourly. He also received one week of anti-tuberculosis medication for presumed (smear-negative) pulmonary tuberculosis, in view of the lack of response to conventional antibiotic treatments. Despite this, his clinical condition did not improve and required high flow oxygen supplementation. A positive polymerase chain reaction test and further consultation with infectious disease specialists confirmed the diagnosis of CMV pneumonia. The patient was started on IV Gancyclovir 275 mg (5mg/kg) 12-hourly for a duration of two weeks. The patient responded well to this treatment and was slowly weaned off high flow oxygen and was able to maintain normal oxygen saturation under room air. Two weeks after commencement of Gancyclovyr treatment, he was discharged home afebrile. His total hospitalisation stay was 66 days. He was started on Anti-Retroviral Therapy (ART) and was reviewed as an outpatient for optimisation of his ART treatment.

CONCLUSION

The possibility of CMV pneumonia in an RVD patient with respiratory symptoms cannot be ruled out. It is thus important for patients who are immunosuppressed to be screened for CMV infections during a febrile phase to ensure timely treatment.

KEYWORDS

Cytomegalovirus pneumonia; opportunistic infection; retroviral disease, gancyclovir
INTRODUCTION AND OBJECTIVES

Wheezing or dyspnoea are among the commonest complaints during an asthmatic exacerbation. Atypical symptoms or complaints during an asthmatic exacerbation warrant careful investigations and search for potential serious complications. This case report highlights the importance of recognising subcutaneous emphysema, a complication that may occur during an asthmatic exacerbation.

CASE PRESENTATION

A 20-year-old Malay man with underlying poorly controlled bronchial asthma presented to Emergency Department with a sudden onset of central chest pain radiating to the back and neck, shortness of breath and cough with whitish sputum. He also complained a sensation of neck swelling. He denied any recent trauma to the chest wall or dental procedures. He had no history of life-threatening asthmatic exacerbation. At arrival, he was afebrile, tachycardic (heart rate 130 beats/min), tachypnoeic (respiratory rate 23 breaths/min) and was speaking in phrases. Under room air his peripheral oxygen saturation was 96%. Chest auscultation revealed good air entry with generalised rhonchi and a prolonged expiratory phase. A provisional diagnosis of acute exacerbation of bronchial asthma was made. Intravenous (IV) hydrocortisone 200mg stat dose was given. He was subsequently treated with a total of 2 doses of nebulized combivent therapy, 2 doses of nebulised salbutamol therapy and 1 dose of nebulized ipratropium bromide therapy. As his respiratory conditions were not improving, IV magnesium sulphate 2.47 gm bolus and IV aminophylline 250 mg bolus were added. Despite the treatment given, the patient’s condition remained the same. IV Augmentin 1.2 gram was then empirically given to cover for pneumonia. Under face mask oxygen supply, his peripheral oxygen saturation was 99%. Generalised rhonchi were still present on chest auscultations. Arterial blood gas showed type-1 respiratory failure.

At 1.5 hour post arrival, he was reassessed by the medical team. The team identified diffuse crepitations over the right chest wall extending up to the neck and face which subsequently spread over to the contralateral chest wall. Chest radiograph confirmed extensive subcutaneous emphysema. There was no radiological evidence of rib fracture, pneumothorax or pneumomediasatum. Bilateral chest tubes placement was performed by the emergency team in view of extensive subcutaneous emphysema. IV salbutamol infusion (5 mug/min) was commenced after the chest tube placement. He was admitted to the Intensive Care Unit (ICU) for further management. His condition improved throughout ICU stay and the subcutaneous emphysema resolved completely at Day 6 of admission. He was discharged well and an asthma action plan was initiated. He was scheduled for a follow-up in the nearest health clinic one week after discharge.

CONCLUSION

Young asthmatic populations are vulnerable toward developing subcutaneous emphysema during an asthmatic exacerbation. The presence of atypical symptoms such as chest pain or neck swelling during asthmatic exacerbation, should alert the clinicians to actively search and investigate for subcutaneous emphysema.

KEYWORDS

subcutaneous emphysema, asthma exacerbation, young man

NMRR-17-845-35555
HISTOPATHOLOGY EXAMINATION: A VITAL DIAGNOSTIC TOOL FOR ACUTE GENERALIZED EXANTHEMATOUS PUSTULOSIS

Uma-Devi Markandan, Wei-Cheng Leong
Medical Department, Hospital Teluk Intan, Teluk Intan, Perak

INTRODUCTION AND OBJECTIVES

Acute Generalised Exanthematous pustulosis (AGEP) is characterised by sudden skin eruption that appears on average five days after starting medications, which disappear when potential inciting drugs are discontinued promptly. We relate a case of a 77 year-old man who presented with worsening skin lesions. Our objective is to distinguish paraneoplastic pemphigus, drug-induced pemphigus, and AGEP with the aid of histopathological examination (HPE).

CASE PRESENTATION

Mr M, a 77 year-old Malay gentleman, is semi-dependent on activities of daily living, and an ex-heroin addict. He was referred by a health clinic with a two-week history of skin lesions, fever, and poor oral intake. The skin lesions initially occurred on the back as small 2x2cm lesions, which spread to the anterior chest wall, limbs, and face, but spared the oral mucosa. He had previously seen a private practitioner who prescribed him oral cefuroxime 500mg twice daily and topical neomycin daily. He did not comply with the medications, but took traditional medicine (Gamat) instead for a week. This led to the worsening of skin lesions that subsequently changed to bullae associated with severe itching and conjunctivitis. On admission, he was diagnosed with extensive pemphigus vulgaris by a physician based on positive Nikolsky sign. He was started on IV Unasyn 1.5g BD (for superimposed bacterial infection), IV hydrocortisone, betamethasone valerate cream 0.1%, and white soft paraffin as an emollient. After 2 days of IV Unasyn 1.5g BD, no improvement of skin lesions was observed. On day 3, a dermatologist was consulted and the working diagnosis was revised to paraneoplastic pemphigus, but the differential diagnosis included (i) paraneoplastic pemphigus and (ii) drug-induced pemphigus. Hence skin biopsy was scheduled a week after admission for further workup. Initial and subsequent white blood cell counts were within normal ranges (6.5X10^3 cells/µL on admission; 8.7X10^3 cells/µL and 4.9X10^3 cells/µL, neutrophils: 84%, lymphocytes: 11% in the ward).

He had acute kidney injury on admission (urea: 13.2 mg/dL, sodium: 154 mEq/L, potassium: 4.0 mEq/L, creatinine: 167 µmol/L) but his renal function improved in the ward (urea: 15 mg/dL, sodium: 149 mEq/L, potassium: 3.0 mEq/L and creatinine: 109 µmol/L). Blood culture yielded no growth. His condition deteriorated on day 6 and required nasogastric tube feeding, which was poorly tolerated. Despite appropriate inotropic and oxygenation support, he succumbed to the illness on day 8. Based on the patient’s worsening general condition and blistering, the initial cause of death was paraneoplastic pemphigus. Results of tumour markers were normal (CA 19-9: 15.7 unit/mL, CEA: 2.18 ng/mL, alpha-feto protein: 1.2 ng/mL, PSA: 7.94 ng/mL), and infective screening showed non-reactivity to HIV Ag-Ab, Hepatitis B and C. HPE of skin biopsy revealed dermal infiltration of eosinophils which correlated with the use of traditional medicines. Based on the pathologist’s review, the cause of death was revised to AGEP, consistent with the clinical history.

CONCLUSION

Although differentiation of AGEP from paraneoplastic pemphigus and drug-induced pemphigus may be difficult, it can be differentiated by HPE and some clinical features. In this case, the delay in seeking medical attention, the use of traditional medicines, and the delay in performing skin biopsy jeopardised timely diagnosis and treatment. A HPE should be performed to distinguish AGEP from other pustular eruptions.

KEYWORDS

histopathology examination, Acute Generalised Exanthematous Pustulosis

NMRR-17-2225-37846
INTRODUCTION AND OBJECTIVES

Deep Vein Thrombosis (DVT) is a manifestation of Venous Thromboembolism (VTE). Known risk factors for DVT are prolonged immobility, major surgery, lower extremity fractures, or underlying malignancy. Patients with HIV/AIDS are also at increased risk for VTE especially those with lower CD4 counts and higher viral load. This report highlights the importance of having high suspicion index for VTE in patients with HIV.

CASE PRESENTATION

A 54 year-old Indian man presented with progressive shortness of breath (SOB) for 3 days. He claimed to have bronchial asthma but was not on follow-up. He was an IVDU, and had completed 6 months of PTB treatment 3 years earlier. At presentation, he was clinically dehydrated, severely underweight (BMI: 13.8 kg/m²), hypotensive (88/50 mmHg), tachycardic (140 beats/minute) and tachypnoeic (36 breaths/minute). Oxygen saturation on room air was 81% and he required non-invasive ventilation. He denied fever (37°C). Crepitation on auscultation was noted at the upper right lung zone without rhonchi. ECG showed sinus tachycardia. His CXR showed right upper zone patchy opacities. WCC (10.6X10³/µL) was increased. A provisional diagnosis of community acquired pneumonia, to rule out PTB reactivation was made. He was hospitalized, and resuscitated with intravenous crystalloids and low-dose Noradrenaline infusion. IV Cefuroxime 750mg TDS and T Azithromycin 500mg OD was initiated. On day 2, his sputum direct smear for Acid Fast Bacilli (AFB) was found to be positive. First line anti-tuberculous therapy was initiated immediately. In the ward, HIV rapid test result was also found positive. He subsequently admitted that he was diagnosed with HIV infection in 2014 but defaulted treatments. AIDS was diagnosed as his CD4 count dropped from 122 cells/ul in year 2014, to 24 cells/ul in year 2017 (current admission). Trimethoprim/sulfamethoxazole 80/400mg 2 tabs OD was started for pneumocystis pneumonia prophylaxis. He was persistently tachycardic despite adequate hydration and cessation of Noradrenaline. He complained of intermittent SOB and required oxygen supply. Repeated ABG showed persistent type-1 respiratory failure. Serial CXR did not show worsening changes. On Day 8, he complained of left lower limb pain. Tenderness and swelling over the left calf were noted. Ultrasound Doppler showed extensive thrombosis over the left popliteal vein extending to the femoral vein. Subcutaneous Tinzaparin 7,000 IU OD was started. The patient’s tachycardia and SOB improved. This suggested that the respiratory symptoms could be due to pulmonary embolism. Warfarin therapy was added and he was discharged after achieving INR of 2.16. He was given a clinic follow up at Infectious Disease clinic and Warfarin clinic.

CONCLUSION

HIV infection has been found to be a pro-thrombotic state. The incidence of VTE in patients with HIV/AIDS is 2-10 folds greater than the general population. It can occur in the absence of other traditional risk factors as highlighted in our case. High suspicion index for VTE is necessary especially when patient have low CD4 count with minimal improvement with treatment given, as symptoms for pulmonary embolism can be mistaken for pneumocystis pneumonia or other respiratory opportunistic infections in HIV patients.

KEYWORDS

HIV, venous thromboembolism, deep vein thrombosis, CD4 count

NMRR-17-2241-38116
MULTIPLE BILATERAL RENAL ABSCESSES IN A PREVIOUSLY HEALTHY YOUNG PATIENT

Ray-Yank Tang, Brian-Mun-Keong Cheong
Medical Department, Hospital Teluk Intan, Teluk Intan, Perak

INTRODUCTION AND OBJECTIVES

The occurrence of renal abscesses is uncommon. They occur in patients with risk factors such as diabetes mellitus, renal calculi, recurrent urinary tract infections, vesico-ureteric reflux, and after genitourinary instrumentation. This case report describes multiple renal abscesses in a young patient without any predisposing factors.

CASE PRESENTATION

A 16 year-old Indian girl with no previous medical illness presented with one week of intermittent fever and generalised abdominal discomfort. On presentation, she was febrile (39°C), and her blood pressure and pulse rate was 100/68 mmHg and 95 beats/minute, respectively. She had facial puffiness and mild lower abdominal tenderness. No masses were palpable at the abdominal area. Cardiovascular examination revealed no murmur. Urinalysis was positive for protein (2+), leukocytes (3+), and erythrocytes (5+), but negative for nitrites. The elevated total white cell count (33x10^3/L) is predominantly neutrophils (89.8%). There was evidence of acute renal impairment with elevated serum urea (14.1 mmol/L) and creatinine (231 µmol/L). A markedly elevated C-reactive protein of 257 mg/L indicated infection. She was started on intravenous (IV) ceftriaxone 2g daily for presumed urosepsis. Abdominal ultrasound revealed multiple bilateral renal abscesses with no evidence of renal calculi, hydronephrosis or hydroureter. A 4-phase Computed Tomography of the kidneys confirmed the diagnosis of multiple small renal abscesses of varying sizes—the largest measuring 2.2cm x 1.1cm.

An echocardiography was done to rule out infective endocarditis as a possible source of haematogenous bacterial seeding but no vegetation was seen. She remained febrile (up to 40°C) after the initiation of IV ceftriaxone, but her renal function and white cell counts normalised. Repeated blood, urine culture, and urine acid-fast bacilli direct smear were negative. She was then switched to IV ceftazidime 1g 8-hourly after six days on ceftriaxone. She remained febrile after nine days of ceftazidime. As she appears clinically well, she was discharged home with oral ciprofloxacin 500mg twice daily and home temperature monitoring. During her follow-up two weeks later, she still had low-grade fever but her appetite was good and she was gaining weight. Repeated renal profile and urinalysis were normal. Urine and blood cultures showed no growth. She completed one month of oral ciprofloxacin. Repeated renal ultrasound showed resolving renal abscesses a month after diagnosis and complete resolution of the abscesses six months after diagnosis.

CONCLUSION

There should be a high index of suspicion for a renal abscess in healthy patients complicated with acute kidney injury and prolonged fever. Smaller renal abscesses without perinephric collection can be treated conservatively with antibiotics. Parenteral antibiotics can be substituted with oral antibiotics after clinical improvement and oral ciprofloxacin is an effective choice. Up to six weeks of antibiotics may be required. Frequent clinical assessment and serial ultrasounds is an inexpensive and effective tool to look at treatment response.

KEYWORDS

renal abscess, antibiotic, kidney cysts

NMRR-16-1403-31709
NON-SPECIFIC INTERSTITIAL PNEUMONIA (NSIP) IN A PESTICIDE HANDLER AND TREATMENT WITH STEROID

Pei-Rong Chiun, Christopher Sze-Bing Sim
Medical Department, Hospital Teluk Intan, Teluk Intan, Perak

INTRODUCTION AND OBJECTIVES

Pesticides are widely used in agriculture to control pests/pests-related diseases. However, pesticide handlers are at risk of developing pulmonary toxicity and fibrosis due to prolonged exposure. This report is to describe the acquired occupational lung disease in a pesticide handler.

CASE PRESENTATION

A 48 year-old Indian gentleman, a chronic smoker with no comorbidities, presented with shortness of breath (increased upon exertion), productive cough with whitish sputum and fever for a week. He had a history of working as a pesticide handler for a year without the usage of Personal Protective Equipment. On admission, he was febrile (40°C) but other vital signs/ECG was normal. On examination, bi-basal crepitation was heard on auscultation. His white cell count was 10.5 X10³/µL, with neutrophils 50%, lymphocytes 31% and eosinophils 2%. A chest-X-Ray done was reported as bilateral lower zone haziness. He was initially diagnosed with pneumonia and was treated with intravenous (IV) Cefuroxime 1.5g stat followed by 750mg TDS and oral Azithromycin 500mg OD for 3 days. Subsequently, he was discharged home with oral Cefuroxime 250mg BD for 4 days. However, he was re-admitted with similar complains 2 days later. On admission, he was febrile (38°C) and the chest-X-Ray was reported with similar findings as the previous admission. White cell count was 9.3 X10³/µL on admission. His initial diagnosis was partially treated pneumonia and was treated with intravenous (IV) Cefuroxime 1.5g stat followed by 750mg TDS and oral Azithromycin 500mg OD for 3 days. On the 16th day of admission, the white cell count was 26.2 X10³/µL with high eosinophil count (6.8%). A High-Resolution Computed Tomography (HRCT) was ordered and its findings revealed lung changes corresponding to eosinophilic pneumonia. A bronchoscopy was also performed. The bronchoalveolar lavage test found reactive mesothelial cells with lymphocyte (+3), histocyte (+2), neutrophil (+2) with no presence of malignant cells. His total serum IgE was elevated and autoimmune markers were negative. Subsequently, he was diagnosed with non-specific interstitial pneumonia overlapped organizing pneumonia (NSIP/OP). He was treated with IV Hydrocortisone 100mg TDS for 1 week. He responded to the intravenous steroid therapy and was finally discharged home well after 19 days of hospitalization. Upon discharge, oral Prednisolone 60mg OD for 2 months was prescribed. The prednisolone treatment was tapered to 40mg OD during the second month follow-up. Clinical and radiological improvements were observed and a repeat HRCT was planned in 6 months.

CONCLUSION

Early diagnosis of NSIP is important to prevent permanent lung damage. Steroids are usually the mainstay of NSIP, but further studies are needed to assess long-term usage for pesticide lung-related diseases.

KEYWORDS

pesticide, non-specific interstitial pneumonia overlapped organizing pneumonia, occupational lung disease

NMRR-17-2297-37934
INTRODUCTION AND OBJECTIVES

Paraquat is a rapid acting liquid herbicide with non-selective toxicity, which causes acute renal failure, liver toxicity, mucosal injury, and respiratory failure if ingested. This case series describes three cases of paraquat poisoning.

CASE PRESENTATION

CASE 1

A 17 year-old Indian girl presented with vomiting after an alleged suicide attempt by ingesting paraquat. Upon presentation, a detailed history was obtained from her mother. She was not in respiratory distress but suffered from pharyngeal hyperaemia. A routine renal function test and urine paraquat were suggestive of renal impairment. Standard treatment was administered, followed by intravenous therapy in the ward (Table 1). Her condition progressively deteriorated over the next 3 days with worsening of renal function complicated with respiratory distress. She succumbed on day 4 of admission before a repeat chest X-ray was performed.

CASE 2

A 16 year-old Indian boy was admitted after intentionally ingesting paraquat. He presented with generalised abdominal pain and multiple episodes of vomiting. A detailed history was obtained from the mother. During examination, other than sustaining oral erosions, examinations of other systems were normal. Urine analysis indicated high levels of paraquat. Initial blood investigations and chest X-ray were normal. Standard treatment was given, followed by intravenous therapy (Table 1). He suffered progressive worsening of renal, liver, and respiratory functions in the ward. A repeat chest X-ray on day 10 of admission showed minimal bilateral pleural effusion. He succumbed on day 15 of admission.

CASE 3

A 24 year-old Indian lady presented to the casualty department with complaints of vomiting, dysphagia, and abdominal pain after intentional paraquat ingestion. A detailed history was obtained from her mother. Examination revealed multiple oral ulcers. Blood investigations for end-organ failure were unremarkable but urine for paraquat was positive. Chest X-ray was normal. Standard treatment was initially administered (Table 1) but was switched to intravenous dexamethasone thrice daily. Daily urine analysis for paraquat showed a decreasing trend of paraquat levels. However, renal serum parameters suggested acute kidney injury, which was managed conservatively. The patient was discharged home after 10 days of admission. She was reviewed at the outpatient clinic a month later and a repeat serum creatinine measurement showed a trend toward improvement. There was no lung fibrosis on repeat chest X-ray.

CONCLUSION

Paraquat poisoning is often fatal. The usual management is the prompt administration of activated charcoal or Fuller’s earth followed by immunosuppressive agents. This reduces the absorption of paraquat and might increase the chances of survival by preventing major organ involvement. The fact that the only survivor in our case series did not have lung involvement suggests that lung involvement might be an important predictor of mortality in paraquat poisoning.

KEYWORDS

Paraquat, poisoning, methylprednisolone, cyclophosphamide, herbicide

NMRR-16-1748-32340

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Amount Ingested (mL)</th>
<th>Urine paraquat</th>
<th>Duration between Ingestion &amp; Treatment (hours)</th>
<th>Treatment given</th>
<th>Renal function through-out admission and beyond</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Oral activated charcoal</td>
<td>Fuller’s earth</td>
<td>IV Methylprednisolone (3 days)</td>
</tr>
<tr>
<td>1</td>
<td>50</td>
<td>Positive</td>
<td>1 hour</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>2</td>
<td>300</td>
<td>Positive</td>
<td>1.5 hours</td>
<td>√</td>
<td>√</td>
<td>√ (followed by IV dexamethasone)</td>
</tr>
<tr>
<td>3</td>
<td>50</td>
<td>Positive</td>
<td>1 hour</td>
<td>√</td>
<td>-</td>
<td>√ (followed by IV dexamethasone)</td>
</tr>
<tr>
<td>Standard Therapy</td>
<td>Positive</td>
<td>Either one</td>
<td>Given as prophylaxis. Longer survival: IV dexamethasone administered</td>
<td>High mortality and organ impairment (pulmonary and renal) involvement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SIPHONING DIESEL: A FATAL MISTAKE

Wei-Cheng Leong, Brian Mun-Keong Cheong
Medical Department, Hospital Teluk Intan, Teluk Intan, Perak

INTRODUCTION AND OBJECTIVES
The practice of siphoning diesel using oral suction (normally with a hollow tube) is common in rural areas. Accidental diesel aspiration and ingestion could happen during this process. We report a fatal case of severe chemical lung injury with pneumomediastinum following accidental ingestion of diesel.

CASE PRESENTATION
A 25 year-old man with no previous medical illness presented to us with a four day history of fever, sore throat, poor appetite, cough and shortness of breath. He was tachycardic (102 beats/min) with high systolic blood pressure (162/86 mmHg). A thorough physical examination revealed the presence of multiple ulcers and raw areas of friable slough in the oral cavity. His chest X-ray was normal. Routine blood investigations showed elevated total white cell count (11.6X10³/µL), and were predominantly neutrophils (85%). There was also evidence of acute kidney injury (urea: 16.7 mmol/L, sodium 129 mmol/L, potassium 3.7 mmol/L, creatinine 937 umol/L, presence of protein and erythrocytes (2+) in his urine). The provisional diagnosis was acute tonsillitis complicated with rapidly progressive glomerulonephritis (RPGN). He was initiated on intravenous (IV) ceftriaxone 2g daily for 10 days and IV methylprednisolone 1g daily for 3 days. However, he developed worsening tachypnoea (26 breaths/min) with clinical signs of metabolic acidosis. He was subjected to immediate haemodialysis and a non-invasive ventilator to compensate for the metabolic acidosis. A repeat chest X-ray showed increased opacities in bilateral lower lobes. Upon further questioning, he revealed that he had accidentally ingested diesel while siphoning it from a barrel a week ago. The diagnosis was revised to alleged diesel aspiration with chemical pneumonitis.

On day 9 of admission, he developed subcutaneous emphysema over his neck and chest wall regions. A computed tomography of the thorax indicated a defect of the oesophagus wall at the T5/T6 level. A diagnosis of oesophageal perforation complicated with bilateral lower lobe consolidation, subcutaneous emphysema with pneumomediastinum was made. Subcutaneous emphysema resolved with conservative treatment. However, his condition deteriorated with worsening tachypnoea requiring invasive mechanical ventilation. Serial chest X-rays showed further consolidations of the lungs. He developed hospital-acquired pneumonia due to prolonged hospitalisation and succumbed to this infection on the 23rd day of admission.

CONCLUSION
The diagnosis of chemical pneumonitis secondary to diesel aspiration is challenging as the clinical manifestations are often non-specific. Signs and symptoms include breathlessness, cough, chest pain, and haemoptysis. Physicians should have a high index of suspicion and obtain adequate history from patients, especially in patients with severe oral ulcers. Unlike previous cases, complications of oesophageal perforation and pneumomediastinum is rare. Additionally, physicians should be reminded that patients with chemical pneumonitis requiring prolonged hospitalisation might be predisposed to nosocomial infections.

KEYWORDS
diesel, siphon, chemical pneumonitis, oesophageal perforation, pneumomediastinum

NMRR-16-2455-33654
INTRODUCTION AND OBJECTIVES

Systemic Lupus Erythematosus (SLE) is a multisystem autoimmune disorder, which can mimic other systemic disorders. There is a very high gender bias toward females (female: male = 9:1). We present a case of a young male who presented with prolonged fever whose diagnosis of SLE was delayed due to atypical presentation.

CASE PRESENTATION

A 19 year-old Malay man with no previous medical illness presented with intermittent high-grade fever for 2 months. He did not have any vomiting, diarrhoea, cough, joint pain, loss of weight, or loss of appetite. There was no family history of malignancy or connective tissue disease. Physical examination did not reveal any remarkable findings. Full blood count showed mild pancytopenia (WBC 2.9 x10^3/μL, haemoglobin 9.2 g/dL, and platelet count 97 x10^3/μL). The renal profile was normal. Liver enzymes and creatinine kinase were elevated (AST 104.8 U/L, ALT 46.6 U/L, CK 740.1 U/L, LDH 714 U/L). He was initially diagnosed with leptospirosis as he works as a lorry driver transporting un-milled rice. The first blood culture isolated Group C Streptococcus but subsequent blood cultures were negative. Echocardiography to rule out infective endocarditis showed minimal pericardial effusion. Both leptospirosis serology (IgM) and Microscopic Agglutination Test (MAT) were inconclusive. Other blood tests including dengue serology, blood film for malaria, scrub typhus serology, retroviral and viral hepatitis serology were also negative. Computed tomography of his thorax, abdomen and pelvis within 3 weeks of admission showed mild hepatomegaly with minimal ascites but no significant lymph nodes. The patient refused a bone marrow aspiration to look for evidence of haemophagocytosis.

He remained febrile for 20 days despite broad spectrum antibiotics, including intravenous (IV) ceftriaxone 2g daily for 9 days, IV cloxacillin 2g 4-hourly for 2 days, IV C-penicillin 2.4 MU 4-hourly for 7 days, and oral doxycycline 100 mg twice daily for 5 days. In the ward, a few nondescript 1 cm purple papules over his cheeks and thigh that do not blanch with pressure were later noted, which he claimed were old acne scars. A skin biopsy was taken. He was screened for connective tissue disease. Anti-Nuclear Antigen (ANA) was positive (> 1:80) with a homogenous pattern, low serum complement (C3) level and positive Coomb’s test (direct 3+). Anti-double stranded DNA (anti-dsDNA) was also positive but Extractable Nuclear Antigens (ENA) was negative. He was diagnosed with SLE and was initiated on IV hydrocortisone 100 mg 4-hourly for 2 days before switching to oral prednisolone 40 mg daily and oral hydroxychloroquine 200 mg daily. His fever subsided within two days with steroids and he was discharged well. Histopathological examination and direct immunofluorescence of the skin biopsy showed evidence of lupus vasculitis. His prednisolone was tapered down by 5 mg every two weeks in an outpatient clinic and he was given a life-long course of low-dose prednisolone to maintain remission.

CONCLUSION

SLE in males is uncommon and can present with atypical clinical features. A high index of suspicion in individuals with a fever of unknown origin presenting with vasculitic skin lesions is required to avoid delay in the diagnosis and management of this disease.

KEYWORDS

young male, systemic lupus erythematosus, lupus vasculitis

NMRR-17-47-34076
ORBITAL APEX CYST: A RARE CAUSE OF COMPRESSIVE OPTIC NEUROPATHY POST-FUNCTIONAL ENDOSCOPIC SINUS SURGERY

Yi-Ni Koh1,2, Shu-Fen Ho2, Letchumanan-Pathma3, Harvinder Singh3, Embong Zunaina1
1 Ophthalmology Department, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan
2 Ophthalmology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
3 Otorhinolaryngology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

ABSTRACT

There are various causes that can lead to compressive optic neuropathy. We present here orbital apex cyst as an unusual cause of compressive optic neuropathy in a 49-year-old male. He presented with 2 weeks painless loss of vision in the left eye with left-sided headache. He had had left functional endoscopic sinus surgery for left nasal polyps 4 years earlier. Magnetic resonance imaging of brain and orbit revealed a left discrete orbital nodule, possibly orbital cyst or mucocele, which was compressing on the left optic nerve. Left eye vision improved markedly from hand movement to 6/36 pinhole 6/18 after initiation of intravenous dexamethasone. A subsequent endoscopic endonasal left optic nerve decompression found the orbital nodule lesion to be an orbital cyst. Marsupialization was performed instead of excision, as the cyst ruptured intraoperatively. Postoperative vision improved to 6/7.5 with normal optic nerve function postoperatively. Possible cause of orbital apex cyst is discussed.

KEYWORDS

orbital cyst, compressive optic neuropathy, functional endoscopic sinus surgery

Publication:
CASE REPORT OF A HYBRID BENIGN AND MALIGNANT ODONTOGENIC TUMOR

Wan-Choon Ong, Kar-Tsyeng Ng, Namkabir-Singh Papindar-Singh, Rithuan Awang, Jesudian-Kovipillai Ferdinand
Oral Maxillofacial Surgery Department, Hospital Taiping, Taiping, Perak

INTRODUCTION AND OBJECTIVES

A hybrid odontogenic tumour is a lesion showing combined histopathological characteristics of two or more previously recognised tumours and/or cysts arising from dental apparatus. Due to sporadic and rare occurrence, current understanding of such lesions is limited. Reported hybrid odontogenic tumours usually comprised of two or more purely benign lesions. We describe possibly the first reported case of a hybrid odontogenic tumour comprising of both benign and malignant lesions which are adenomatoid odontogenic tumour and ghost cell odontogenic carcinoma respectively.

CASE PRESENTATION

A 48 year-old Malay female with underlying hypertension first presented with a left mandibular intraoral swelling of 6 months duration. The swelling was painless and associated with minimal gingival bleeding occasionally. As the swelling progressively increased in size, patient attended a primary dental clinic and was referred to us for further management. Clinical examination revealed a 2cm X 1cm, sessile, bony hard and normal mucosa coloured swelling at alveolar ridge of left lower molar region. There was no lymph node enlargement or extraoral swelling. Initial impression of benign odontogenic tumour was made. Incisional biopsy of the swelling was done and reported as adenomatoid odontogenic tumour. Enucleation of the tumour under general anaesthesia was planned. Unfortunately, patient defaulted subsequent treatment. Four years later, patient was admitted under the Medical Department Hospital Taiping due to iron deficiency anaemia. She was referred to us by the Medical Department as the similar swelling had increased tremendously in size. The swelling was associated with blood stained serous discharge. Clinical examination revealed a 10cm X 8cm swelling at left mandible. Computed tomography scan showed heterogeneously enhancing mass involving parasympysis, body, angle and distal part of ramus of left mandible. Multiple air pockets with calcifications were seen within the mass. The mass caused expansion and perforation of the mandible. Wide excision of the left mandibular tumour was done. Histopathology examination revealed adenomatoid odontogenic tumour and ghost cell odontogenic carcinoma within the same lesion. Patient was sent for adjuvant radiotherapy after the operation. She is still under surveillance and no recurrence of tumour has been noted up to 1 year follow up.

CONCLUSION

There is a controversy whether hybrid odontogenic tumours are true hybrid or simply an anomalous histodifferentiation process. Presence of a mixed benign and malignant component in this case suggests the former and it poses a diagnostic challenge. Though hybrid odontogenic tumours are not listed in current WHO classification of odontogenic tumours, recognition of such lesions are very important as it will determine therapeutic outcome for the patient. Underdiagnoses of such lesions will lead to improper treatment and possible medicolegal issues.

KEYWORDS

hybrid, odontogenic tumour, benign, malignant

NMRR-17-2639-39136
CASE REPORT: MASSON’S TUMOUR – RARE INTRAORAL PRESENTATION

Subashini Gunasekaran¹, Yi-Mei Chng¹, Khamisah-Awang Kechik², Rithuan Awang¹, Jesudian-Kovipillai Ferdinand¹
1 Oral Maxillofacial Surgery Department, Hospital Taiping, Taiping, Perak
2 Oral Medicine Oral Pathology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Masson’s tumour, also known as Intravascular Papillary Endothelial Hyperplasia (IPEH) is a rare vascular tumour caused by excessive proliferation of endothelial cells in blood vessels. This tumour is benign and has an excellent prognosis. It can occur anywhere where endothelial cells are present. However intra-oral occurrence is rare, and clinically this tumour may mimic several other vascular-like tumours of the oral cavity. Clinically, the lesion may be mistaken and should be differentiated from other similar lesions like mucocele, hemangioma, lymphangioma, angiosarcoma, hematoma, Kaposi sarcoma, melanoma, and fibroepithelial polyps. We present a case of Masson’s tumour to add to the existing literature of this uncommon tumour.

CASE PRESENTATION

A 53 years-old gentleman with underlying controlled hypertension, was referred from Klinik Pergigian Gerik for the management of a growth on the right upper anterior alveolar ridge. The patient noted the growth 3 months prior to the clinic presentation. According to patient, the growth was initially about 5mm in size and did not cause any disturbances, and thus he did not seek any treatment. Eventually, the growth progressively increased in size and caused discomfort during mastication, with occasional bleeding while brushing his teeth. Upon intraoral examination, the growth was noted to be a multi-lobulated firm exophytic growth. It measured 3cm X 2cm X 1cm and appeared reddish blue in colour. Radiological investigation with Orthopanthomogram (OPG), revealed generalized horizontal bone loss and vertical bone loss in relation to tooth 13 (right upper canine) distally. Based on these findings, the growth was highly suggestive of a Pyogenic Granuloma.

A week later, an excisional biopsy was done under local anesthesia and the specimen was sent for histopathological examination. The growth was later reported to be a Masson’s tumour. The histopathological examination reported that the growth had sections of fibrous connective tissue with numerous capillary channels on. There were few blood vessels with moderate wall thickness showing endothelial papillary structures within its lumen, with early thrombus formation were noted on the growth. No recurrence was noted during subsequent reviews with us and the patient is still undergoing follow up.

CONCLUSION

Masson’s tumour has been rarely described in the oral cavity in the head and neck region, the most common site being extraoral. This case emphasizes the need for this rarely occurring tumour to be considered in the differential diagnosis of enlarging oral mucosal growth. Knowledge on the possibility of different rare oral benign tumour will be essential for the clinicians to manage such cases. Underdiagnoses of such lesions will lead to improper treatment and possible medicolegal issues.

KEYWORDS

masson’s tumour, IPEH, rare, benign
ENDOscopic EXCISION OF A GIANT PLEOMORPHIC ADENOMA OF THE NASAL SEPTUM

Ramaprabah Kandiah¹, Pathma Letchumanan², Harvinder Singh², Baharudin Abdullah¹
1 Department of Otorhinolaryngology, Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan
2 Department of Otorhinolaryngology, Hospital Raja Permaisuri Bainun, Ipoh, Perak

ABSTRACT
Pleomorphic adenoma of nasal cavity is very rare. Approximately 80% is found in the nasal septum while the remaining 20% is found in the lateral nasal wall. Histologically, pleomorphic adenoma of the nasal cavity differs from the tumor arising from the major salivary glands. It contains more cellularity and epithelial components than the stromal elements. The treatment is total excision with long term follow up as there is potential risk of recurrence and malignancy. Endonasal endoscopic excision has lesser morbidity with better prognosis. In this case report, we highlighted the successful endoscopic excision of an extensive posteriorly located pleomorphic adenoma.

KEYWORDS
pleomorphic adenoma, nasal septum, endoscopy

LIFE-THREATENING PARAPHARYNGEAL AND RETROPHARYNGEAL ABSCESSES IN AN INFANT

Anusha Balasubramanian1, Redzwan-Shah J1, Norzi Gazali2, Philip Rajan1
1 Otorhinolaryngology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
2 Otorhinolaryngology Department, Hospital Sultanah Bahiyah, Alor Setar, Kedah

INTRODUCTION AND OBJECTIVES

Deep neck space abscesses are commonly seen in the adult population, especially in diabetics, immunocompromised patients, or patients with a history of foreign body ingestion. Although uncommon, they may present in the paediatric population in a mild or severe life-threatening form. The objective of this case report is to discuss the occurrence of deep neck space infection in an infant and the role of a multidisciplinary team approach in its management.

CASE PRESENTATION

A previously well 4 month-old infant girl was referred from a local health clinic for a 4-day history of fever, lethargy, and left lateral neck swelling. History elicited from the mother revealed no recent trauma or insect bite. The child had no intrauterine complications and was immunised as scheduled. Upon presentation, the infant was reviewed by both the Paediatric and Otorhinolaryngology (ENT) teams. The infant appeared to be in respiratory distress and was immediately intubated for airway protection. A full blood count test showed elevated levels of leukocytes (15x10^3/L). A computed tomography of the head and neck with contrast revealed a large fluid collection (5.3cm×8cm) in the left parapharyngeal and retropharyngeal spaces extending superiorly to the base of the skull, and inferiorly to the left sternoclavicular junction. The collecting of fluid caused narrowing of the airway.

The infant was immediately subjected to an emergency intraoral endoscopic procedure. An incision and drainage was done via the incision made at the posterior oropharyngeal wall and it resulted in the draining of 40mL of frank pus. A swab culture and sensitivity was taken intraoperatively and sent to determine the causative organism. Following the surgery, the infant was warded and ventilated at the paediatric intensive care unit and was co-managed by the Paediatric and ENT teams. The infant was extubated 48 hours post-surgery and resumed direct breastfeeding. A 1-week course of intravenous antibiotics was given before discharge. The infant was reviewed at the clinic one month from the day of discharge. There was no surgical complication and culture and sensitivity results reported no growth.

CONCLUSION

Severe deep neck space infections, although rare in infants, remain a life-threatening condition. Although the external approach is generally preferred, surgical approach via intraoral access may prove superior in selected cases to avoid neurovascular injuries. Prompt diagnosis and management are necessary to avoid potential complications, which include airway obstruction, rupture of the abscess into the pharynx and trachea, empyema, mediastinitis, and cavernous sinus thrombosis. Prompt multidisciplinary management is crucial in these patients.

KEYWORDS

abscess, parapharyngeal, retropharyngeal, infant; intra-oral

NMRR-17-68-34130
MIGRATORY FOREIGN BODY IN THE NECK

Aranjit Singh¹, Anusha Bala², Irfan Mohamad³, Philip Rajan²
1 Otorhinolaryngology Department, Hospital Teluk Intan, Teluk Intan, Perak
2 Otorhinolaryngology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
3 Otorhinolaryngology-Head & Neck Surgery Department, School of Medical Sciences, Universiti Sains Malaysia, Kota Bharu, Kelantan

INTRODUCTION AND OBJECTIVES

Ingestion of foreign bodies is one of the most common reasons for referral to an otolaryngology practice. Most cases are removed in the clinic setting or under general anaesthesia. However, migration of foreign bodies in the throat is rare and can cause serious complications depending on the route of migration. We present a case of migrating fish bone embedded in the right scalene muscle, successfully removed through an external approach.

CASE PRESENTATION

A 37 year-old Chinese man with no co-morbidities complaint of pain in the right side of his neck for the past 2 days. There was no history of fever, odynophagia, dysphagia, breathing difficulty, or hoarseness of voice. The patient had accidentally swallowed a fish bone 5 days prior to presentation, and had a piercing sensation on the right side of his throat ever since. Attempts to dislodge the foreign body by consuming bolus of soft food failed. Physical examination revealed a sharp piercing foreign body which was palpable below the skin over the lateral border of the right neck. However, there was no overlying fluctuancy or subcutaneous emphysema. Direct laryngoscopy and rigid oesophagoscopy findings were negative. Computed Tomography of the neck with contrast revealed a sharp, linear foreign body piercing out from the right scalene muscle.

The patient underwent right neck exploration under general anaesthesia. Intraoperatively, a sharp fish bone measuring 2 cm was found embedded in the scalene muscle, lying posterior to the external jugular vein, and was successfully removed. Although non-purulent, the wound was washed with copious amounts of 10% povidone-iodine solution and closed primarily. He completed 5 days of intravenous cefuroxime 1.5g 8-hourly with metronidazole 500mg 8-hourly and was discharged home well. At 2 weeks post-operatively, he made a full recovery and was discharged from review.

CONCLUSION

This case highlights the importance of a thorough history and physical examination in a patient with foreign bodies in the throat, especially if the patient is still symptomatic, and laryngo-oesophagoscopy findings are unremarkable. Migratory foreign bodies, although rare, may lead to serious complications if left untreated. A high index of suspicion, and early and appropriate intervention are important to avoid undesirable complications. Imaging is vital to aid the diagnosis and to precisely locate the migrating foreign body to avoid fatal complications. Exploration of the neck via an external approach is the preferred treatment in most cases of migrating foreign bodies.

KEYWORDS

foreign body, migratory, neck, fish bone

NMRR-16-2198-33599
PINNA GRANULAR CELL TUMOUR IN A CHILD

Guhan K1,2, Philip Rajan2, Mazura Mohamed-Zahidi3, Irfan Mohamad1
1 Otorhinolaryngology-Head & Neck Surgery Department, School of Medical Sciences, Universiti Sains Malaysia, Kota Bharu, Kelantan
2 Otorhinolaryngology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
3 Pathology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Granular cell tumour (GCT) is a rare entity that was first described by Abrikossoff in 1926. It manifests as a cutaneous, subcutaneous, or submucosal slow-growing, painless nodule, and usually affects adults in their 3rd to 6th decade of life. We present here the first case of GCT in children reported in Malaysia.

CASE PRESENTATION

A 9-year-old girl presented with right pinna swelling for a year, which was gradually increasing in size. There was no family history of cancer, and the child had no history of trauma or insect bites. There were no similar lesions on other parts of the body. Local examination revealed a firm and non-tender swelling measuring 1cm x 1cm fixed to the underlying cartilage. An elliptical incision was made, a skin flap was raised, and the firm mass was excised from the underlying cartilage. The wound was managed by primary closure, and the mass was sent for histopathological examination. Histopathologic features were consistent with benign granular cell tumour, with margin involvement. For wound care, we recommended daily dressing with normal saline at a local clinic for a month; no other medications were given.

Regular follow-ups were conducted at our clinic for a period of 1 year during which the wound healed well, and the child did not experience any pain or recurrence of swelling at the surgical site. On further 1-year follow-up, there was no pain or swelling at the surgical site. There was also no evidence of local recurrence or pinna structural deformity.

CONCLUSION

Due to its insidious nature, the high tendency for recurrence, and the likelihood of malignancy, it is prudent to consider GCT as a differential diagnosis when encountering a painless nodule in a child. Despite the high recurrence rate of GCT, especially when there is margin involvement a simple excision with regular follow-up may be an alternative mode of treatment when a large excision is not possible.

KEYWORDS

granular cell tumour, pinna, benign, excision
SEPTAL CAPILLARY HAEMANGIOMA

Steuphen Roy¹, Chenthilnathan Periasamy², Harvinder Singh¹
1 Otorhinolaryngology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
2 Otorhinolaryngology Department, Hospital Taiping, Taiping, Perak

INTRODUCTION AND OBJECTIVES

Capillary haemangioma of the nose is a rare entity and presents as a benign vascular tumour. The exact aetiology of capillary haemangioma remains uncertain, making its management a challenge. The objective of this case report is to describe a septal-capillary haemangioma that was primarily treated by endoscopic surgery without preoperative embolisation.

CASE PRESENTATION

A 28 year-old Malay male presented to the ENT department with recurrent unilateral epistaxis for 2 months. He had a history of upper respiratory tract infection associated with left-sided nasal block, rhinorrhea, and epistaxis. The patient has no known co-morbidities, no history of trauma, and no history of high risk behaviours. On examination, there was no obvious external nasal deformity, no facial swelling, or any areas of tenderness. Rigid endoscopy revealed a lobulated and pedunculated mass originating from the anterior part of left nasal septum extending into the nasopharynx. He also had a deviated nasal septum towards the right side. Contrast enhanced CT of the paranasal sinuses revealed a well-defined soft tissue mass measuring 2.7 x 1.3 x 2.1 cm, arising from the left side of the nasal septum and involving the middle turbinate. The growth caused a mass effect on the maxillary sinus but there was no bone erosion, sclerosis or sinus cavity expansion. The mass did not extend beyond the nasal cavity into the pterygopalatine or olfactory fossa.

Diagnosis of a vascular mass suggestive of haemangioma was made. A surgical excision of the septal mass was conducted under general anaesthesia using a trans-nasal endoscopic approach. The surgery comprised the removal of the adjoining septal border and en-bloc removal (spur facilitating) of the mass. Post-operatively, the patient improved clinically and showed good recovery. Histopathological examination of the resected mass confirmed the diagnosis of septal capillary haemangioma, indicated by proliferation of blood vessels mainly comprising capillaries lined by a single layer of benign endothelial cells.

CONCLUSION

This case highlights the importance of good clinical acumen in obtaining the correct diagnosis to ensure efficient management. As described in this case, the success of proper complete en-bloc excision with minimal bleeding without pre-operative embolisation affirms current practice guidelines for the management of nasal septal capillary haemangioma.

KEYWORDS

septal haemangioma, endoscopy, embolisation
A CASE REPORT OF REFRACTORY KAWASAKI DISEASE

Shih-Hang Nga, Roshan Singh
Paediatric Department, Hospital Seri Manjung, Manjung, Perak

INTRODUCTION AND OBJECTIVES

Kawasaki disease (KD) is an idiopathic autoimmune vasculitic disease involving the skin, eyes, lymph nodes and mucosal layers. It commonly affects children below the age of 5. Intravenous immunoglobulin (IVIG) and high-dose aspirin are the mainstay treatment for KD. We present a case of a patient with refractory KD do not respond to standard treatment.

CASE PRESENTATION

A 1 year-3-month-old Malay boy with no known co-morbidities presented with a 3-day history of low-grade fever associated with coryzal symptoms and macular rash over 1 day. A general practitioner prescribed erythromycin ethyl succinate 200mg twice a day for the patient. On admission, the patient was switched to intravenous crystalline penicillin 200,000 U four times a day. Initial full blood count (FBC) was normal (TWBC 11.1x10^9/L, platelet 276 U/Lx10^9/L) but liver enzymes were raised (AST 95 U/L, ALP 212 U/L, ALT 216 U/L). The patient was diagnosed as viral fever with secondary bacterial infection. He remained febrile despite antibiotics. A day after admission, he developed bilateral non-purulent conjunctivitis and cervical lymphadenopathy. Repeat blood investigation showed no significant changes in FBC but a reduction in liver enzymes (TWBC 8.1x10^9/L, platelet 261 U/Lx10^9/L, AST 47 U/L, ALP 195 U/L, ALT 172 U/L). The patient was diagnosed as viral fever with secondary bacterial infection. He remained febrile despite antibiotics. A day after admission, he developed bilateral non-purulent conjunctivitis and cervical lymphadenopathy. Repeat blood investigation showed no significant changes in FBC but a reduction in liver enzymes.

However, he remained febrile despite the completion of IVIG. Therefore, a second dose was administered 24 hours after the first, but his temperature remained persistently high (up to 40°C). Repeat blood investigations showed elevated TWBC, platelets, and ESR. C-reactive protein (CRP) was positive. The diagnosis of refractory KD was made in view of increasing ESR, platelet counts, and unresolved temperature after 2 doses of IVIG. A paediatric cardiologist initiated the patient on high dose intravenous methylprednisolone 30mg/kg once a day. The patient’s temperature resolved after the 2nd dose of methylprednisolone. He completed a 3-day course of methylprednisolone and was discharged as he was afebrile for 48 hours. A repeated ECHO in 2 weeks after discharge did not show worsening of his condition. The patient continued on oral aspirin 30mg/kg/day daily for another 2 weeks and was referred to a paediatric cardiologist for follow-up of coronary artery dilatation. At present, the patient is being followed-up at the paediatric clinic in Manjung and is not on any medications.

CONCLUSION

Compared to the management of KD, the management of refractory KD is not well established, which may pose a challenge to clinicians. The principal goal of treatment of patients with refractory KD is the prevention of Coronary Artery Lesions (CAL) to reduce the risk of morbidity and mortality.

KEYWORDS

Kawasaki Disease, refractory Kawasaki disease, methylprednisolone
INTRODUCTION AND OBJECTIVES

Anti-N-methyl-D-aspartate (anti-NMDA) receptor encephalitis is characterised by progressive encephalopathy caused by inflammation of the brain. This condition has been reported in females and is associated with ovarian teratomas. Children with this condition may develop psychiatric symptoms, behavioural changes, language and movement disorders, seizures, and autonomic instability.

CASE PRESENTATION

A 7-year-old girl who was previously well presented with 3 episodes of afebrile seizures within a week. The seizure duration ranged from 5 seconds to 15 minutes per episode, and involved facial muscle twitching, drooling of saliva, and facial pallor. On the third day of illness, she developed an unsteady gait and became forgetful. She also became aphasic and emotionally labile. Neurological examination revealed grade 4/5 power in all four limbs. Brain imaging by CT and MRI were normal. An EEG showed diffuse slowing over the left cerebrum with focal slowing over the left posterior temporal and occipital area. She was initially treated with intravenous phenytoin and antibiotics at a private hospital but her symptoms did not improve. She was then transferred to our centre and referred to a paediatric neurologist. Anti-NMDA receptor antibodies were detected in the cerebrospinal fluid, but was negative in the serum. A connective tissue screen was negative and ultrasound of the abdomen showed no evidence of ovarian teratoma.

She was treated with 5 days of intravenous methylprednisolone followed by 2 weeks of oral prednisolone. She was also treated with intravenous immunoglobulin 1g/kg for 2 days. Her seizures were treated with oral phenytoin, levetiracetam, and clonazepam. Intravenous cyclophosphamide 500mg/m² as an infusion over 1 hour was added to the treatment regime at day 22 of illness. She demonstrated significant improvement in her symptoms after 2 doses of monthly cyclophosphamide. She has since regained her language and communication skills, has good memory, and is able to walk steadily. Her neurological examination is now completely normal and she is on regular follow up with a paediatrician.

CONCLUSION

Anti-NMDA receptor encephalitis is a treatable condition which carries an excellent prognosis with early and aggressive therapy. The overall annual incidence of encephalitis is 5-10 per 100,000; however the incidence of this newly discovered, rare condition, is still unknown. The gold standard of diagnosis is the detection of anti-NMDA receptor antibodies in the cerebrospinal fluid and serum. It is amenable to treatment with steroids and intravenous immunoglobulin. Intravenous cyclophosphamide or rituximab can be used as second line therapy if there is suboptimal neurological recovery. As the response to appropriate therapy is good, it is important to raise awareness of this condition among clinicians.

KEYWORDS

Anti-NMDA receptor encephalitis, seizures, immunoglobulin, steroids

NMRR-17-2207-38211
NEONATAL ACINETOBACTER BAUMANNII INFECTION: THE USE OF AMPICILLIN-SULBACTAM

Chew-Beng Ng¹, Aida-Noordina Ahmad Rahim¹, You-Leng Tan¹, Saiful-Rijal Muhammad²
1 Pharmacy Department, Hospital Taiping, Taiping, Perak
2 Paediatrics Department, Hospital Taiping, Taiping, Perak

INTRODUCTION AND OBJECTIVES

Infections caused by Acinetobacter baumannii (A. baumannii) are associated with high mortality and morbidity because of high virulence and antimicrobial resistance. Treatment of A. baumannii infections is often complicated by multi-drug resistant (MDR) isolates resistant to almost all conventional antibiotics. Carbapenems have been the treatment of choice for empirical treatment of Acinetobacter infections. With the increase in multi-drug resistance of A. baumannii isolates, available alternate antibiotics include polymyxins (polymyxin B and colistin), sulbactam, tigecycline, and tetracycline, given either alone or in combination. This case report describes the pharmacological management and clinical outcome of a neonate with A. baumannii infection treated with ampicillin/sulbactam.

CASE PRESENTATION

We presented a case of a preterm (29 weeks of gestational age weighing 1.12kg) baby girl who was born after her mother intentionally consumed misoprostol orally to induce a miscarriage. The mother was brought to the hospital by her sister after she was noted to have spontaneous vaginal bleeding. The infant was delivered via an emergency caesarian section and was subsequently admitted to the NICU for mechanical ventilation. Intravenous (IV) meropenem 45mg 8-hourly (40mg/kg/dose) was prophylactically administered for 6 days. A routine blood culture indicated the presence of MDR A. baumannii sensitive to polymyxin B and colistin, sulbactam, tigecycline, and tetracycline, given either alone or in combination. This case report describes the pharmacological management and clinical outcome of a neonate with A. baumannii infection treated with ampicillin/sulbactam.

Although A. baumannii was not susceptible to ampicillin-sulbactam, the paediatricians found adequate clinical evidence to support its use due to the intrinsic activity of sulbactam against many Acinetobacter strains in adults. Following the administration of ampicillin-sulbactam, subsequent blood investigations showed improvement in the WBC count. Repeat blood cultures on days 4 and 8 after the initiation of ampicillin-sulbactam showed no growth. The infant was continued on IV ampicillin-sulbactam for two weeks without any adverse events. She was discharged home well after the completion of the antibiotic. In our case report, the premature infant was given this treatment as the paediatricians felt that the renal function of the child was still not well developed and treating her with polymyxin might increase the risk of renal toxicity.

CONCLUSION

Ampicillin-sulbactam may be an effective treatment for MDR A. baumannii despite its resistance to this antibiotic. Further studies are required to determine the efficacy and optimum doses of this antibiotic in treating MDR A. baumannii infections, especially in neonates.

KEYWORDS

Acinetobacter Baumannii, ampicillin-sulbactam, neonates

NMRR-16-2241-33631
POST-ELECTROCUTION PERSISTENT MANIC DEPRESSIVE SYNDROME: A UNIQUE DIAGNOSTIC SYNDROME AND A RED FLAG AGAINST ELECTRO-CONVULSIVE THERAPY?

Nahdiya Shaari, Ahmad-Syukri Chew
Psychiatry and Mental Health Department, Hospital Seri Manjung, Manjung, Perak

INTRODUCTION AND OBJECTIVES

Bipolar mood disorder is a highly disabling psychiatric disorder, affecting 1% of today’s population. As of today, its aetiology is unknown as most cases do not have a pathophysiological explanation. This case presentation is a man who presented with a full blown manic depressive clinical syndrome with psychosis, after suffering from an electrical injury.

CASE PRESENTATION

A 49 year-old Malay man, with no background history of medical illness or psychiatry co-morbidities, was admitted to surgical ward, with second degree burns over palms and feet, complicated with rhabdomyolysis, caused by an electrical injury. The electrical injury occurred while at work in a palm plantation. Upon injury he experienced dizziness which resolved during his stay in the surgical ward. There was no history of loss of consciousness, chest pain or difficulty in breathing. The palms and feet injuries were cared in the surgical ward. He was discharged home on day 7 of admission, with no signs and symptoms of neurological deficit. 3 days upon discharged, he presented to the emergency department with abnormal behaviour, such as irritability, poor sleep and irrelevant speech. He was haemodynamically stable, physical examination was unremarkable. Blood investigations were within normal range. No fever was documented. A CT brain was not done because he was aggressive and non-cooperative. He was initially treated as delayed onset delirium secondary to the electrical injury. He responded well to antipsychotics.

During follow up, after 3 weeks of injury, manic symptoms were very prominent. He displayed a grandiose delusion; increased goal directed activity, pressure of speech, irritability, reduced need for sleep with poor insight and judgment. His disturbed behaviour was so severe that his wife ran away and filed for separation from him. He was diagnosed as Bipolar Type I secondary to electrical injury even though secondary mania associated with electrical injury is uncommon. He was started on sodium valproate and olanzapine but responded slower to treatment as compared to other typical bipolar patients. This patient is still undergoing treatment to control his symptoms at time of writing this report two months since the injury.

CONCLUSION

Secondary mania post electrical injury is uncommon. Physicians should consider prophylactic mood stabiliser and anti psychotic treatment when attending to patients with an electrical injury.

KEYWORDS

bipolar mood disorder, manic depressive syndrome, electrical injury, Electro-Convulsive Therapy (ECT)

NMRR-16-1771-32886
ENVIRONMENT MODIFICATION IN BARIATRIC PREHABILITATION: A CASE SERIES
Shivani Rajasegaran, John-Yee Cheong, Su-Yee Chuah
Rehabilitation Medicine Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

INTRODUCTION AND OBJECTIVES

Prehabilitation is a preparation of individuals in achieving a certain level of cardio-respiratory fitness before bariatric surgery. It involves multidisciplinary approaches (e.g., doctors, therapists, nurses, dietitian and psychologists) and is known to improve surgical outcomes. In Malaysia, most healthcare facilities are not technologically and structurally equipped for bariatric prehabilitation. This case series described the environmental adaptation of the current setting for bariatric prehabilitation purposes.

CASE PRESENTATION

CASE 1

A 48 year-old 300kg man was presented to a tertiary hospital with acute sepsis secondary to pneumonia. After being medically stabilized, he was referred to the bariatric team for a 30-day prehabilitation programme, to improve his functional status prior to bariatric surgery. A 3-hour/day exercise regime (1.5 hours of physiotherapy and 1.5 hours of occupational therapy) was prescribed. The hospital bed was used to mobilise the patient. Two heavy-duty hospital beds were used for bed mobility, while a laundry weighing scale was used for weight monitoring. The ward toilet was not bariatric friendly and thus, patient’s bowel and bladder care were all done at the bedside. A medication dispensing trolley was used as a standing and walking aid. Resistance bands were tied to the adjacent window grills for resistance training of the upper-limb and bedside hand cycle was placed to encourage regular exercises. More staff were mobilized to assist the patient, two physiotherapists during active mobility, while five staff for skin care, toileting and positioning. After the 30-day programme, he achieved a weight reduction of 12kg, an increase in the Modified Rivermed Mobility Index (MRMI, from 24/40 to 33/40) and Modified Barthel Index (MBI, from 44/100 to 72/100). He was able to walk for 3 meters without aids and awaited approval for his equipment to be discharged home.

CASE 2

A 36 year-old 190kg lady, was presented to a tertiary hospital with sepsis secondary to pneumonia and right lower limb cellulitis. She was managed in the Intensive Care Unit (ICU) for 3 weeks prior to referral to the bariatric team, for the 30-day prehabilitation programme. Upon discharge from the ICU, she was transferred to the active rehabilitation ward in Hospital Batu Gajah. She was prescribed with a 3-hour/day exercise regime, similar to that of Case 1. An old steel bed was used to accommodate her weight, while a hospital bed was used as a ‘commode wheelchair’ during toileting and bathing. A heavy-duty medication trolley was used as standing and walking aid, with a large flower pot place onto the trolley to counter balance her weight. She was able to mobilise to the gym and utilized more equipment for exercise. After the 30-day programme, she achieved a weight reduction of 14 kg, and increase in MRMI (from 15/40 to 30/40) and MBI (from 48/100 to 74/100). She was able to walk for 4 meters with aids. She was discharged home well and followed up in the outpatient bariatric clinic.

CONCLUSION

Despite the lack of a bariatric compliant setting, environmental modification and staff mobilisation had made prehabilitation of bariatric patients possible.

KEYWORDS

bariatric, obesity, rehabilitation

NMRR-17-2325-38276
ECG-GO USING WHATSAPP TO IMPROVE KNOWLEDGE IN HOUSE OFFICERS

Ray-Yank Tang, Brian Mun-Keong Cheong, Rubiny Arjunan, Banusha Vanukuppal, Soon-Hooi Lim, Cheah-Yin Chow, Loh-Joash Tan
Medical Department, Hospital Teluk Intan, Teluk Intan, Perak

OUTLINE OF PROBLEM

Electrocardiograph (ECG) interpretation among doctors is an essential skill to diagnose life threatening cardiac conditions promptly. Appropriate treatment can then be instituted without any delays. The objective of this study was to evaluate the effectiveness of ECG teaching using WhatsApp application among house officers.

KEY MEASURES FOR IMPROVEMENT

To utilize a common smart phone messaging application (WhatsApp®) as an interactive method to improve ECG knowledge among house officers in the Medical Department of Hospital Teluk Intan over a period of one month.

PROCESS OF GATHERING INFORMATION

This study was divided into three phases. It involved all house officers posted to the department from May 2016 until September 2017. The first phase involved assessing knowledge with a short-answer test based on 20 common ECG abnormalities from online resources (tachy-arrhythmias, bundle branch block, myocardial infarction and various heart blocks). House officers were required to identify the abnormal features of each ECG and to provide the correct diagnosis. They were also asked for the reason they might have poor knowledge (open ended question). The test was conducted in the form of a written subjective test within the first week of duty reporting. Each house officer was given 45 minutes to complete the test.

Their scores were calculated as a percentage from the total of 60 marks. The answers of the test were not revealed or discussed with the house officers throughout this study. In the second phase, we implemented our remedial measure of daily ECG teaching to the house officers using WhatsApp®. A chat group was formed with a specialist and a senior medical officer included as tutors. A picture of an ECG with a brief description of the clinical symptoms was posted daily over a period of a month. House officers were encouraged to discuss the answers and the third phase involved reassessing the house officers’ knowledge using the similar short-answer test as before.

ANALYSIS AND INTERPRETATION

A total of 100 house officers participated in this study. A pre-remedial measure test (first phase) showed an overall mean score of 13.0% (SD: 10.3). This did not differ among their seniority in housemanship. Among factors contributing to poor ECG knowledge identified were poor undergraduate teaching (32%), time constraint during work (23%) and poor housemanship teaching (17%).

STRATEGY FOR CHANGE

A fixed teaching module was prepared based on 20 ECGs (second phase). One ECG topic was broadcasted daily. House officers were encouraged to post their answers individually via the group/personal message to the tutor before the correct answer was revealed. This was discussed further in the common chat group the following day. This process was repeated until all 20 ECG topics were discussed. The performances of house officers were also discussed among specialists to ensure the weaker ones were given attention. The target achievement for this study was set at 70%.

EFFECTS OF CHANGE

The post remedial measures revealed an improvement in knowledge with a mean score of 53.0% (SD: 19.1). There was a mean improvement of 40.0% (SD: 15.7). The ABNA reduced to 17% from 57%.

NEXT STEPS

Utilization of smart phone messaging application such as WhatsApp® is able to complement conventional ECG teaching. This method can be implemented in the house officer training curriculum.

KEYWORDS

ECG, house officer, smart phone messaging, WhatsApp®

NMRR-17-2236-37277
INCREASING COMPLIANCE TO PAN-RETINAL PHOTOCOAGULATION (PRP) AMONG PROLIFERATIVE DIABETIC RETINOPATHY (PDR) PATIENTS IN AN OPHTHALMOLOGY CLINIC OF A TERTIARY REFERRAL HOSPITAL

Hong-Kee Ng, Ui-Lyn Loh, Gunavathy-Nandakumal, Ivan-En-Yoo Cheng, Norhazwani Azhar, Lalita Kerushnamurthi, Nazahiyah Mohd-Noor, Kalingkaswari Subramaniam

Ophthalmology Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak

OUTLINE OF PROBLEM

Proliferative diabetic retinopathy (PDR) affects 5-10% of the diabetic population. Pan-retinal photocoagulation (PRP) induces the involution of new vessels thus preventing diabetic retinopathy complications. However, the compliance rate of PRP in the Ophthalmology Department of HRPB from January to September 2015 was 78%. The aim of study was to increase the compliance rate of PRP among PDR patients to 90%. The target for compliance was determined through consensus of ophthalmologists in the department.

KEY MEASURES FOR IMPROVEMENT

This study was divided into three phases: a pre-interventional phase (October to November 2015), an interventional phase (December 2015 to January 2016), and a post-interventional phase (February to March 2016). All PDR patients indicated for PRP were conveniently sampled. Patients with quiescent PDR, misdiagnosed PDR, or proliferative retinopathy secondary to other causes were excluded. We first identified contributing factors of non-compliance to PRP, from which remedial measures were formulated, implemented, and evaluated to achieve a 90% compliance rate. The questionnaires collected information on patient’s knowledge on PDR and PRP, and the checklist evaluated patient’s satisfaction of PRP, waiting time for PRP commencement, and the efficacy of PRP. All data were collected by medical officers/specialists via interview with patients.

ANALYSIS AND INTERPRETATION

During the pre-intervention phase, 154 patients met study eligibility criteria. The compliance rate of PRP among these patients was 75%. The most common reason for non-compliance was poor knowledge of PDR complications and the role of PRP (74%), followed by long waiting time (satisfaction) to PRP commencement (15%), and ineffectiveness of PRP (3%).

STRATEGY FOR CHANGE

Remedial measures to overcome non-compliance included counselling of patients, mobilisation of laser machine to the clinic, dilating pupils 1 hour prior to the appointment, starting clinic operations by 7.30 a.m., and regularly updating the list of patients undergoing PRP to optimise usage of the laser machine. To ensure adequacy and effectiveness of the laser treatment, junior operators were strictly supervised by senior medical officers/specialists, and all patients were reviewed by specialists after PRP.

EFFECTS OF CHANGE

During the post-intervention phase, 138 patients met study eligibility criteria. Remedial measures implemented increased the compliance rate of PRP to 83%. The ABNA was narrowed from 15% to 8%. However, the target compliance rate of 90% was not achieved, possibly due to patient’s lack of knowledge on PDR and PRP, and the long waiting time. Despite not achieving the target compliance rate, there were improvements in patients’ knowledge on PDR and PRP (26% pre-intervention to 81% post-intervention), satisfaction of service (92% underwent laser within 120 minutes post-intervention compared to 85% pre-intervention), and effectiveness of the PRP (97% pre-intervention to 100% post-intervention).

NEXT STEPS

In view of the improvements in knowledge, satisfaction, and effectiveness of PRP, our department has continued with the implementation of the remedial measures. A follow-up audit will be conducted to evaluate the sustainability of these remedial measures and their impact on patients’ compliance to PRP.

KEYWORDS

proliferative diabetic retinopathy, pan-retinal photocoagulation, laser therapy

NMRR-14-1327-23087
ADHERENCE TO PRESCRIPTION REFILLS FOR CYCLOSPORINE 0.5% OPHTHALMIC DROPS AFTER IMPLEMENTATION OF AN SMS (SHORT-MESSAGING SYSTEM) REMINDER SYSTEM: A QUALITY ASSURANCE STUDY

Gobi-Hariyanayagam Gunasekaran, Klara-Anthony Anthonysamy
Pharmacy Department, Hospital Seri Manjung, Manjung, Perak

OUTLINE OF PROBLEM

Cyclosporine eye drops help to increase natural tear production in patients who suffer from chronic dry eye disease. Commercially, this eye drop is available at a concentration of 0.05% (Restasis®). Patients who do not adequately respond to this concentration will need to be treated with cyclosporine 0.5% eye drops. However, this concentration must be prepared extemporaneously and has a 2-week shelf-life. Patients will need to refill their prescription every fortnight until treatment completion. However, patients adhere poorly to their prescription refill date and this has resulted in more frequent visits to the pharmacy, continued use of expired eye drops and increased cost of preparation.

KEY MEASURES FOR IMPROVEMENT

The primary aim was to increase patients’ adherence to the prescription refill date to ≥75% by implementing an SMS (short-messaging system) reminder system. This standard and intervention strategy was decided through consensus of pharmacy staff. This secondary aim was to evaluate the impact of this reminder system on cost reduction.

PROCESS OF GATHERING INFORMATION

We included all patients (n=13) treated with cyclosporine 0.5% eye drops for chronic dry eyes or inflammatory ocular surface disorder between 2015 and 2016. A data collection form was designed to collect patient details, drug preparation date, cost (personal protective equipment, cyclosporine 50mg/ml, diluent polyvinyl alcohol 1.4% eye drops, drug-related consumable products), patient collection date, SMS date.

ANALYSIS AND INTERPRETATION

A total of 40 preparations were compounded for 10 patients in the baseline phase (January to August 2015). 35 preparations were collected by patients, of which only 5 (14%) were collected precisely on the prescription refill date. There were 5 uncollected preparations contributing to a total wastage of RM475 (cost estimated for each eye drop preparation was RM 95).

STRATEGY FOR CHANGE

The SMS reminder system was introduced in the intervention phase for 8 months (September 2015 to April 2016). All patients were messaged one day before their prescription refill date to remind them to collect their eye drops.

EFFECTS OF CHANGE

A total of 81 preparations were compounded for 9 patients in the intervention phase. 1 preparation was not collected and resulted in a wastage of RM 95. Of the 80 preparations collected by patients, 30 (37%) were collected precisely on the prescription refill date. Adherence to the prescription refill date increased from 14% to 37%, and the cost of wastage was reduced by 80% (from RM 475 to RM 95).

NEXT STEPS

Although there was an improvement in the collection of eye preparations, adherence to the prescription refill date did not meet the pre-specified standard of 75% and hence, the SMS reminder system was stopped. Standard compounding dates for the eye drop are set on every first and third Thursday of the month, and patients can only collect their eye drops on these dates.

KEYWORDS

gutt cyclosporin 0.5%, short messaging system, wastage, cost reduction

NMRR-15-2388-27586
QUALITY ASSURANCE

TO INCREASE THE PERCENTAGE OF COMPLIANCE TO DOCETAXEL INFUSION WITHIN 4 HOURS AFTER THE IMPLEMENTATION OF PHARMACIST INTERVENTION: A QUALITY ASSURANCE STUDY

Gobi Hariyanayagam Gunasekaran, Klara Anthony Anthonysamy
Pharmacy Department, Hospital Seri Manjung, Manjung, Perak

OUTLINE OF PROBLEM

The Docetaxel is an anti-cancer agent which requires reconstitution prior to intravenous administration to the patients. Docetaxel is only stable within 4 hours post reconstitution and should be administered within that time frame. Any delays in its delivery after reconstitution will cause the agent to be unusable hence wastage. This study aimed to improve docetaxel delivery through implementation of interventions that will ensure the delivery of reconstituted docetaxel to the patients is within 4 hours.

KEY MEASURES FOR IMPROVEMENT

We aimed to achieve a 100% success rate of docetaxel infusion within 4 hours after reconstitution. The current on-time administration for Docetaxel is unknown.

PROCESS OF GATHERING INFORMATION

This study was a cross sectional study conducted in 2 phases. A data collection form was designed to record the time at which reconstitution was started and completed, the time the preparation was collected by ward staff, and the time of infusion initiation/completion. This is to identify which process caused the delay in initiating infusion. In the pre-intervention phase (Jan 2015 – Jun 2015), the baseline data was traced from the pharmacy records and patients chemotherapy administration charts. In the intervention phase, the same variables as in pre-intervention were collected with an additional information which is the time of pharmacists’ intervention to ensure infusion was initiated on time. The post-intervention data was collected at 2 different time frames to examine the continuity of the intervention; June till December 2015, followed by the second time frame capture which was from January till June 2016.

ANALYSIS AND INTERPRETATION

In the pre-intervention phase, 42 reconstituted Docetaxel solutions events were observed. Of the total, 14 (33.7%) infusions were not administered within 4 hours. This is mainly due to delay in collecting the Docetaxel preparations by ward staff and delay in administering the infusion to patient after collection.

The intervention phase involved a pharmacist checking on patient’s Docetaxel administration in order to ensure that the solution is administered within 4 hours. Staff nurses, medical officers/house officers in charge of the patient were reminded to start the infusion and the time of administration was recorded.

EFFECTS OF CHANGE

35 and 37 Docetaxel preparations were observed in the first and second time frames respectively during the post-intervention phase. At the pre-intervention phase, the infusion completed on time was 66.3% (n=28); and that number increased to 88.6% (n=31) for the first time frame capture and to 94.6% (n=35) in the second time frame of the post-intervention. The reasons that 2 time frames did not achieve the standard that was set was because the house officer did not state the time the infusion completed on the drug administration chart and infusion duration was changed from 1 hour to 2 hours. The ABNA however reduced from 33.7% to 11.4% for the first time frame capture to 5.4% for the second time frame capture.

NEXT STEPS

Although the aim of this study was not achieved, the majority of the infusions were given on time with the exception of 2 case which were related to administrative and patient factors. The strategy of pharmacist intervention was effective in increasing the compliance to the infusion time. This intervention also proved to be sustainable as the 2 time frame capture showed that there was an improvement of percentages of on-time administration of Docetaxel.

KEYWORDS

docetaxel reconstitution, stability, pharmacist intervention, infusion

NMRR-15-2394-27293

92 A Publication of the PGMES Ipoh Hospital & CRC Perak ISSN 1394-8474
INTRODUCTION AND OBJECTIVES

Nasogastric tube feeding is essential in delivering nutrients and medicine to patients with poor oral intake, neurological or mechanical dysphagia, or patients under critical care. It is important that nurses’ competency at undertaking this clinical procedure is assessed periodically. This study aimed to determine nurses’ compliance to the Nasogastric Tube Feeding Standardised Operating Procedure (SOP) of the Ministry of Health (MOH), Malaysia, specifically looking at: (1) feeding technique, (2) soft skills when addressing patients, and (3) documentation.

METHODOLOGY

A clinical audit was conducted among nurses in charge of medical cases in the Intensive Care Unit (ICU) and 3 medical wards of Hospital Seri Manjung from July to August 2016. Four senior nurses who were trained as auditors conducted the audit according to a checklist developed based on the Nasogastric Tube Feeding SOP of the MOH Malaysia. This checklist contained 14 items on feeding technique, 4 items on soft skills when addressing patients, and 2 items on documentation in the patient’s case notes. An audit standard was set at 100% compliance to the Nasogastric Tube Feeding SOP. A minimum sample size of 80 nurses was required for this audit, with 20 nurses equally selected from each ward. Those on long leave, study leave, or maternity leave were excluded. Nurses were assessed for 20 minutes during nasogastric tube feeding. For the same patient who required nasogastric tube feeding, different nurses who administered the feeding were audited at different feeding times. The level of compliance to the SOP was analysed for the 3 main audit criteria.

RESULTS

Of 98 nurses working in the 4 selected wards and who fulfilled the inclusion criteria, 80 were conveniently selected for the audit. All nurses performed nasogastric tube feeding in accordance with established standards. In terms of using soft skills in addressing patients, 48 (60%) nurses performed all 4 criteria as stated in the SOP. The criteria for soft skill evaluation included obtaining consent from patient or guardians prior to feeding (60%), addressing the patient (90%), ensuring patient privacy (70%), and positioning patients correctly for feeding (100%). In determining the adequacy of documentation, all nurses recorded the feeding in patients’ case notes and input-output charts.

CONCLUSION

All nurses performed nasogastric tube feeding and documented this procedure in accordance with the SOP. However, only two-thirds possessed adequate soft skills.

KEYWORDS

feeding, nasogastric tubes, nurses, medical ward, Standard Operating Procedure (SOP)
THE ABILITY OF HEALTH CARE PROVIDERS TO DETECT AND ACT ON MALNOURISHED ORANG ASLI CHILDREN AGED 2 OR LESS: A CLINICAL AUDIT IN PERAK ADMINISTRATIVE REGION

Chii-Chii Chew1, Amar-Singh HSS1,2, Hasni-Adha Ibrahim1, Venugopalan K. Balan2,3, Mahinder-Kaur Pritam-Singh2, Nor-Azizah Abd-Aziz1, Chiew-Ha Foong3, Hooi-Meng Puah3, Adliah Hussien1
1 Clinical Research Centre (Perak), Ipoh, Perak
2 Paediatrics Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak
3 Perak State Health Department, Perak

INTRODUCTION AND OBJECTIVES

The majority of indigenous people [Orang Asli (OA)] live in poverty and are likely to suffer from malnourishment. Routine health growth assessments are essential to identify children at risk of malnutrition. The aim of this study was to audit the ability of Health Care Providers (HCP) at primary health clinics within the Perak state to detect and appropriately manage malnutrition among OA children.

METHODOLOGY

A clinical audit was conducted from October to November 2016. The researchers reviewed clinical clinic notes from 2014 to 2016 of OA children below the age of 2 years that were kept at 33 centers (which included health clinics, Pasukan Bergerak Orang Asli [PBOA] and Klinik Desa [KD]). The researchers selected all the 33 centers within 7 Districts of Perak that were frequently visited by the OAs. Consensus was obtained among stakeholders for the audit criteria, forms and procedures. All weight-for-age growth charts for OA children aged below 2 were sampled. Children with special needs or serious medical problems were excluded from this study. Growth charts were examined and compared with the set audit criteria. This included good quality plotting on growth charts (plotted completely and correctly plotted) and poor quality plotting (chart not plotted, partially plotted or incorrectly plotted), the presence of malnutrition and the mode of management for a stunted growth detection (appropriate action, inappropriate action, no action) according to the regional guidelines. After the ethical approval was obtained, 29 eligible auditors were recruited and trained by the researchers to assist in data collection. The researchers used examples of different quality plotted growth charts to train the auditors until they became familiar with the criteria and were able to determine growth chart plotting quality. Data was collected using a standardised data collection sheet and emailed back to the researchers. Data obtained was keyed into SPSS v21.0 for analysis.

RESULTS

A total of 1329 growth charts of OA children were audited. 797 growth charts were found to have been plotted correctly (60.0%), 527 were incorrectly plotted (39.7%) and 5 were not plotted (0.3%). From the total, 514 (38.6%) OA children were found to have normal growth with appropriate management (i.e. appointment dates and growth chart plotted correctly) as per guideline. 550 (41.4%) of all the audited growth chart indicated OA children with malnutrition; 157 (28.5%) of them received appropriate management, while the remaining 393 (71.5%) did not receive appropriate management for their stunted growth. The determination of nourishment status of 265 (20.0%) from the total of 1329 children were not possible due to incomplete growth chart plotting.

CONCLUSION

Nearly 40% of OA children aged less than 2 years were malnourished and the majority received inappropriate management. The inability of HCPs to perform critical growth monitoring and manage stunted growth is a serious matter that requires immediate attention and action.

KEYWORDS

clinical audit, growth charts, OA children, malnutrition, action

NMRR-16-1691-32438
SCREENING AND MANAGEMENT OF DIABETIC NEPHROPATHY: A CLINICAL AUDIT IN PRIMARY CARE CLINICS

Suriata Daud¹, Shahnulkamal Sidek², Siti-Norhani Suhaimi³
1 Klinik Kesihatan Bidor, Bidor, Perak
2 Klinik Kesihatan Tanjung Malim, Tanjung Malim, Perak
3 Klinik Kesihatan Tapah, Tapah, Perak

INTRODUCTION AND OBJECTIVES

Diabetic nephropathy (DN) is a major cause of end-stage renal disease in Malaysia. This audit evaluated the adequacy of DN screening and management at 7 government health clinics in Batang Padang district of Perak.

METHODOLOGY

This clinical audit was conducted on patients registered in the 2015 Batang Padang’s National Diabetic Registry (BPNDNR). Patients diagnosed with Type 2 Diabetes Mellitus (T2DM) for at least 6 months were proportionally sampled from each clinic to achieve the minimum sample size of 460. Patients’ records with entries between 1st January and 31st December 2016 were randomly selected for review. Audit standards for screening and management of DN were determined based on the Malaysian 2015 T2DM Clinical Practice Guidelines. Records were audited to determine whether patients were adequately screened and managed for DN. DN screening was considered adequate if urine microalbumin test and serum creatinine were performed annually. There should be confirmatory tests after a positive test result, and calculation of an estimated Glomerular Filtration Rate (e-GFR) from serum creatinine. DN management was considered adequate if patients with microalbuminuria or proteinuria were prescribed angiotensin converting enzyme inhibitor (ACE-I) or angiotensin receptor blocker (ARB). Response to treatment should be monitored, and there should be a referral of chronic kidney disease (CKD) patients to a diettiant or a nephrologist. An audit form was designed to collect patient’s socio-demography, diabetes history, blood pressure level, HbA₁c level, prescription of an ACE-I or ARB, annual serum creatinine level, e-GFR result, urine microalbumin test result, confirmatory test for microalbuminuria or proteinuria, indications for referral to a nephrologist, and whether referral has been made to a specialist and a diettiant. The primary outcome was to determine the proportion of patients with adequate DN screening and management. Differences in performance between clinics were analysed as a secondary outcome.

RESULTS

A total of 460 records were audited. More than half of the patients were male (55.4%), with a mean age of 62.6 years (SD: 11.7), and a median diabetic duration of 5.0 years (IQR: 8.8). Less than one-third of them (31.1%) had achieved target blood pressure (≤135/75 mmHg), and their median HbA₁C was 7.7% (IQR: 2.6). Overall, 41.1% patients had been adequately screened for DN. Annual tests for urine microalbuminuria were performed in 55.0% of the patients. Among patients with positive results, only 51.7% of them underwent confirmatory tests for proteinuria or microalbuminuria at 3- and 6-month follow-up. 67.4% had an annual measurement of serum creatinine, but only 7.4% had their e-GFR calculated. Similarly, 47.6% patients had adequate DN management. 43.0% were prescribed an ACE-I or ARB, 23.6% were referred to a diettiant, and 34.5% to a nephrologist. There were statistically significant differences (p<0.001) between these clinics in terms of the adequacies of DN screening and management, indicating variations in compliance with standard guidelines.

CONCLUSION

The performance of primary health care staff in DN screening and management was poor, where more than half of the patients with DN were not adequately screened or managed.

KEYWORDS

diabetic nephropathy, primary care, audit, screening, management

NMRR-16-1928-33006
Editorial Note:

The studies listed below were conducted in Perak in year 2014 and 2015. However, the abstracts submitted were very weak and lacked adequate details on methodology and data. The editorial committee was unable to obtain more information despite many attempts. Hence we are listing the topics below for documentation and future reference.

1. Adopting Lean in Healthcare: An Experience of Paradigm Shift in an Emergency & Trauma Department of a Regional Referral Hospital
   Wai-Mun Chung, Run-Jeat Fann, Xiao-Yuan Chng, Zaratul-akmal Ibrahim

2. Adrenaline Use in a 39-Year-Old Man with Near Fatal Asthma
   Chui-Yng Chong, Nor-Azian Ahmad-Zainuddin, Noriza Josti, Siti-Intan-Zurhaida Md-Zainol-Abidin, Zhi-Shan Lee

3. Barriers to Oral Health Care Access among the Elderly in Malaysia
   Dewi Mayang Sari, Chiew Shoen Chuen

4. Benzodiazepine And The Non-Benzodiazepine Hypnotic (Zolpidem) Prescribing Trend And Evaluation Of Their Dependence Among Major Depressive Disorder (MDD) Patients at Outpatient Pharmacy Hospital Bahagia Ulu Kinta (HBUK)
   Christine Li-Ling Lau, Ming-Yan Liew, Poh-Hui Lim, Mun-Keet Lee, Vi-Vian Wong

5. Caspofungin an Option for Disseminated Fungal Sepsis in Extreme Low Birth Weight: A Case Report
   Pooven Raj, Ian Wee-Yen Ping, Jeyaseelan Nachiaapan, Hon- Kin Cheong

6. Comparing Different Types of Calcium Channel Blocker (CCB) On Type and Outcome of First Event Acute Stroke, from the National Neurology Registry (NNEUR)
   Kin-Wei Chua, Narwani-Hussin, Wee-Kooi Cheah, Zariah Abdul-Aziz, Looi Irene, Norsima-Nazifah Sidek

7. Endoscopic Dacrocystorhinostomy: Reliability of Office Clinical Assessment and Outcome of a Stentless Procedure with a Variation in the Flap
   Revadi Govindaraju, Harvinder Singh, Pathma Letchumanan

8. Exploring the Prevalence and Influence of Diabetic Peripheral Neuropathy in Primary Care Clinics in Malaysia
   Devanandhini Krisnan, Paranthaman Vengadasalam, Subashini Ambigapathy

9. I Am Sick, But I Am Unable to Complain
   Asha Parveen, Wai-Mun Chung

10. Perforated Diverticulum of Sigmoid Colon in a Teenager with Dengue Shock Syndrome
    Sing-Hoon Cheng, Siew-Leong Loh

11. Pharmacists’ Interventions on Prescriptions at the Outpatient Pharmacy of a District Hospital
    Jia-Ji Kong, Nor Zuraida Abdul Wahab, Nandan Sreedaralingam, Kugap Priya Balakrishnan, Alex Yi-Siang Chua
INVESTIGATOR INITIATED RESEARCH

CONDUCTED IN PERAK

FROM YEAR 2016 – 2017

RESEARCH IN YEAR 2016

1. The Knowledge, Attitude and the Perceived Barriers Contributing to Pressure Ulcer Prevention among Registered Nurses Of A Public Hospital
   Principal Investigator: Mahaeswari Kasi, Hospital Taiping

2. The Assessing the Prevalence of Diabetic Retinopathy with Ocular Surface Diseases among Patients Attending Klinik Kesihatan Jelapang, Ipoh
   Principal Investigator: Muhammad Imran Ahmad, Unikl – RCMP

3. An Audit Of Compliance to Docetaxel Infusion Completion Within 4 Hours After The Implementation Of Pharmacist Intervention
   Principal Investigator: Gobi Hariyanayagam Gunasekaran, Hospital Seri Manjung

4. An Audit of Adherence to Resupply Date of Gutt. Ciclosporin 0.5% Preparation after the Implementation Of SMS (Short-Messaging System) Reminder System
   Principal Investigator: Gobi Hariyanayagam Gunasekaran, Hospital Seri Manjung

5. Experiences of Using Evidence-Based Practice (EBP) In Hospital Raja Permaisuri Bainun, Ipoh, Malaysia: A Survey among Physiotherapists and Occupational Therapists
   Principal Investigator: Razveen Kaur Kaldip Singh, Hospital Raja Permaisuri Bainun, Ipoh

6. Effectiveness of Chemotherapy Counselling By Pharmacists In Cancer Patients In Malaysian Government Hospitals - A National Study
   Principal Investigator: Sherina Mohd Sidik, UPM

7. Mental Health Literacy And Stigma : A Study Among Public Sector Pharmacists In Malaysia
   Principal Investigator: Shamini Rama, UKM

8. NSAIDS Avoidance Education In Geriatric Patients With High Risk Of Acute Kidney Injury In HSM
   Principal Investigator: Zuraida Mat Adam, Hospital Seri Manjung

9. Nursing Students Perception And Attitude In Spirituality And Spiritual Care In The Clinical Setting
   Principal Investigator: Sharizan Mohd Kusairi, UM

10. Clinical And Cost Outcome After Two Years Implementation Of Antimicrobial Stewardship Programme At A Tertiary Referral Hospital In Malaysia (CCOAS)
    Principal Investigator: Doris George Visuvasam, Hospital Ipoh

11. Comparison Of Two Clinical Case Definitions In Detecting Overweight And Obesity Among Registered Nurses In A District Specialist Hospital
    Principal Investigator: Teh Pei Nee, Hospital Seri Manjung

12. Tahap Pengetahuan, Sikap Dan Amalan Terhadap Penyaringan Pap Smear Dikalangan Anggota Wanita Hospital Seri Manjung Perak.
    Principal Investigator: Suria Othman, Hospital Seri Manjung

    Principal Investigator: Chua Kin Wei, CRC, Hospital Taiping
<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Principal Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Study Of Anti-Pyretics And NSAIDS Given Among Patients Prior To Admission To Hospital Seri Manjung For Dengue Fever</td>
<td>Koay Hui Ying, Hospital Seri Manjung</td>
</tr>
<tr>
<td>15</td>
<td>The Relationship Between Supervisor Personality Traits And Supervisee Development</td>
<td>Masyitah Minhad, UIA</td>
</tr>
<tr>
<td>16</td>
<td>The Relationship Between Teamwork And Job Satisfaction: A Study Of Nurses In Hospital</td>
<td>Sharmila Varma Alaku, UTAR</td>
</tr>
<tr>
<td>17</td>
<td>Parents Perception Of Risk Factors Causing Exacerbation Of Asthma In Children: A Study In Paediatric Ward, Hospital Seri Manjung</td>
<td>Thevapria Sinnaiah, Quest International University</td>
</tr>
<tr>
<td>18</td>
<td>Tahap Pengetahuan Berkaitan Neonatal Jaundis Dalam Kalangan Ibu Pos Natal Di Wad 6C (SCN) Hospital Raja Permaisuri Bainun Ipoh</td>
<td>Rohana Zahidi, OUM</td>
</tr>
<tr>
<td>19</td>
<td>Tahap Pengetahuan Dan Amalan Kawalan Infeksi Tuberkulosis (TB) Di Kalangan Doktor Dan Jururawat Di Wad Perubatan, Hospital Seri Manjung</td>
<td>Devi Subramaniam, Hospital Seri Manjung</td>
</tr>
<tr>
<td>20</td>
<td>Evaluation Of The Macula And Retinal Nerve Fiber Layer Thickness In Patients With Connective Tissue Diseases On Hydroxychloroquine</td>
<td>Logandran Vijaya Kumar, Hospital Raja Permaisuri Bainun, Ipoh</td>
</tr>
<tr>
<td>21</td>
<td>Awareness About The Benefits Of Breastfeeding And Its Practice Among Mothers In HSM</td>
<td>Thiviyadarshini Tamil Selvam, Quest International University Perak</td>
</tr>
<tr>
<td>22</td>
<td>Validation Study Of Malay Version Barrat Impulsivity Scale (BIS-11) Among Psychiatric Population</td>
<td>Farah Ahmad Shahabuddin, Hospital Bahagia Ulu Kinta</td>
</tr>
<tr>
<td>23</td>
<td>Intention To Seek Help From Primary Care Doctors For Emotional Problems, Its Association With Socio-demography And Psychological Morbidities Among Outpatients KK Greentown, Ipoh</td>
<td>Chew Ait Jane, PPUKM</td>
</tr>
<tr>
<td>24</td>
<td>Association Between Storage Temperature And Quality Of Whole Blood Derived Platelet</td>
<td>Pravin Nair Vijain Kumar, Hospital Raja Permaisuri Bainun, Ipoh</td>
</tr>
<tr>
<td>25</td>
<td>The Effect Of Aerobic And Brisk Walking On Overweight And Obese Staffs In HBUK</td>
<td>Chen Pei Yean, Hospital Bahagia Ulu Kinta</td>
</tr>
<tr>
<td>26</td>
<td>Knowledge Of Insulin Storage &amp; Cold Chain Maintenance Among Insulin Pen Users</td>
<td>Wong Choy Shan, Hospital Seri Manjung</td>
</tr>
<tr>
<td>27</td>
<td>Leaders Interpersonal Communication Skills Enhancing Nurses Innovative Behaviour</td>
<td>Darma Ta’siyah Gumbri Appu, Klinik Kesihatan Teluk Intan</td>
</tr>
<tr>
<td>28</td>
<td>Faktor Yang Mempengaruhi Kesejahteraan Psikologikal Pesakit Skizofrenia</td>
<td>Zamuna Mat Nor, PPUKM</td>
</tr>
<tr>
<td>29</td>
<td>Kesan Komunikasi Dan Kepuasan Kerja Yang Mendorong Kepada Ketidak Patuhan Arahan Di HSM</td>
<td>Sholiza Jamri, Hospital Seri Manjung</td>
</tr>
</tbody>
</table>
INVESTIGATOR INITIATED RESEARCH

   Principal Investigator: Nor Ruzwana Ruslan, Hospital Raja Permaisuri Bainun, Ipoh

31. A Multi Country Multi Site Non-Interventional Study On Vortioxetine In Major Depression Patients In South East Asia
   Principal Investigator: Zaiton Saliman, Inc Research

32. A Study On Success Rate Of Prefabricated Post Retained Crowns From 2008 To 2014
   Principal Investigator: Rosenani Mohd Noordin, Klinik Pergigian Jelapang

33. Practice Variation Among Doctors In Managing Pregnant Women With Urinary Leucocyte-Esterase Positive And/Or Nitrite Positive Without Symptoms Of Urinary Tract Infection
   Principal Investigator: Yeoh Kok Ming, Klinik Kesihatan Kampung Simee

34. The Impact of Methadone Maintenance Therapy Program Among Registered Patients In Perak
   Principal Investigator: Nor Suhailah Mohd Hasan, Pejabat Kesihatan Daerah Kuala Kangsar

35. Hubungan Antara Kepuasan Kerja Dengan Prestasi Kerja Di Hospital Seri Manjung
   Principal Investigator: Kasturi Manokaran, Hospital Seri Manjung

36. Review Of Patient Admissions To The Palliative Ward Of A Regional Referral Hospital In Malaysia
   Principal Investigator: Nirmala A.K. Nadan @ Kasinathan, Hospital Raja Permaisuri Bainun, Ipoh

37. Factors That May Influence Patients’ Perceptions On Pill Burden
   Principal Investigator: Ho Chee Wah, Hospital Raja Permaisuri Bainun, Ipoh

38. Knowledge and Perception among Nurses to the Reporting Of Adverse Effect Following Immunization in Health District Office of Batang Padang.
   Principal Investigator: Tai Tzu Lee, Hospital Raja Permaisuri Bainun, Ipoh

39. Family-Based Study Using Exome Sequencing In Morbid Obese Patients Undergoing Bariatric Surgery
   Principal Investigator: Zahurin Mohamed, UM

40. Novel Biomarkers In Patients With Morbid Obesity Undergoing Bariatric Surgery
   Principal Investigator: Zahurin Mohamed, UM

41. Gender Analysis Of Preferred Benefit Packages Of Health Insurance Among Malaysians
   Principal Investigator: Nurul Azwa Mohd Ismail, UKM

42. Faktor Yang Mempengaruhi Peningkatan Penagihan Relaps Di Kalangan Penagih Dadah Dalam Rawatan Di Klinik Terapi Gantian Methadone, Hospital Raja Permaisuri Bainun
   Principal Investigator: Sharifah Akmal Syed Abdullah, Kolej Sains Kesihatan Bersekutu Sultan Azlan Shah, Ulu Kinta

43. Knowledge, Attitude And Practice Of Pharmacists On Drug Dosage Adjustment According To Renal Function (ADDR) In Malaysia
   Principal Investigator: Teh Xin Rou, Clinical Research Centre (CRC), Kuala Lumpur Hospital

44. Prevalence Of Obesity And Screening For Diabetes Among Secondary School Students Under School Health Team, Taiping, Perak
   Principal Investigator: Marliana Abd Rahim, Klinik Kesihatan Taiping

45. The Effect Of Skin Care Bundle In Prevention Of Pressure Ulcer In Critical Care Unit
   Principal Investigator: Norasma Bakar, Hospital Parit Buntar
46. Persepsi Pesakit Mental Terhadap Stigma Masyarakat Di Klinik Pakar Psikiatri, HBUK
   Principal Investigator: Fauziah Ansawi, Kolej Sains Kesihatan Bersekutu Sultan Azlan Shah, Ulu Kinta

47. Malaysian Parents Plan On Sleeping Arrangement With Their Newborn
   Principal Investigator: Chang Chee Tao, Hospital Raja Permaisuri Bainun, Ipoh

48. Incident Reporting Culture: Do Neonatal Intensive Care Nurses Report A Medication Error?
   Principal Investigator: Nor Ros Hanidah Abd Manak, Kolej Sains Kesihatan Bersekutu Sultan Azlan Shah, Ulu Kinta

49. Parent’s Knowledge Of G6PD (Glucose-6-Phosphate Dehydrogenase) Deficiency In Infants
   Principal Investigator: Sabarina Ahmad, Kolej Sains Kesihatan Bersekutu Sultan Azlan Shah, Ulu Kinta

50. Explore The Neonatal Incubator Temperature Setting Practices At The Special Care Nurseries In Malaysia
   Principal Investigator: Aneeda Fatima Fauzi, Kolej Sains Kesihatan Bersekutu Sultan Azlan Shah, Ulu Kinta

51. Tahap Pengetahuan Keluarga Pesakit Dalam Penjagaan Pesakit Skizofrenia Di Unit Jabatan Pesakit Luar Hospital Batu Gajah
   Principal Investigator: Ruzaila Raslam, Kolej Sains Kesihatan Bersekutu Sultan Azlan Shah, Ulu Kinta

52. Kesan Penyalahgunaan Dadah Dikalangan Pesakit Psikiatri Di Hospital Bahagia Ulu Kinta
   Principal Investigator: Abd Malek Husnai, Kolej Sains Kesihatan Bersekutu Sultan Azlan Shah, Ulu Kinta

53. Missed Nursing Care Among The Registered Nurses Of The Medical Wards In A Regional Referral Hospital In Malaysia
   Principal Investigator: Paramaisvary Parasuraman, Hospital Raja Permaisuri Bainun, Ipoh

54. Birth Prevalence Of Microcephaly In Malaysia
   Principal Investigator: Kavita Jetly Jagjit Kumar Jetly, Clinical Research Centre (Perak)

55. A Pilot Study on The Clinical Features And Laboratory Features Of Dengue Infections In In-Patients At Hospital Raja Permaisuri Bainun And Hospital Taiping
   Principal Investigator: Yeoh Eiu Jyn, Quest International University Perak

56. Tahap Pengetahuan Staff Dalam Pengendalian Pesakit Agresif Di Institusi Mental
   Principal Investigator: Mohamad Syukri Abdul Halim, Kolej Sains Kesihatan Bersekutu Sultan Azlan Shah, Ulu Kinta

57. Prospective Surveillance of Hospitalized Dengue Patients in Asia? Preparation Phase Of A Vaccine Effectiveness Study
   Principal Investigator: Amar-Singh HSS, Hospital Raja Permaisuri Bainun, Ipoh

58. Prevalence And Barriers Of Reporting Needle-Stick Injuries Among Government Pharmacists Working In Perak
   Principal Investigator: Foo Pei Ling, Hospital Batu Gajah

59. Kepatuhan Jururawat Dalam Pemberian Makanan Melalui Tiub Nasogastrik Di Wad Perubatan Hospital Seri Manjung
   Principal Investigator: Komalam Padavatan, Hospital Seri Manjung

60. Healing Experiences Of Young Adults Recovering From Major Depressive Disorder
   Principal Investigator: Chan Siaw Leng, Hospital Raja Permaisuri Bainun, Ipoh

61. The Clinical, Biochemical And Radiological Characteristics Of Patients With Hidradenitis Suppurativa In
   Principal Investigator: Loo Chai Har, Hospital Sultan Abdul Halim, Sungai Petani

62. Knowledge, Attitude And Practices On Needle Stick Injuries And Its Associated Factors Among Paramedics In Health Centres In Perak, Malaysia
   Principal Investigator: Ismail Edi, UPM
63. Determination Of Ambulance Response Time To Rates Of Major Adverse Cardiac Effects In Acute Coronary Syndrome: A Retrospective Cohort Study  
   Principal Investigator: Jeremiah Ding Deck Shen, Hospital Raja Permaisuri Bainun, Ipoh

64. 100% of Nurses Counter Check the Evident Of Medications Been Served Per Each Prescription In All Related Medication And Nursing Care Documents In Medical Ward In HRPB.  
   Principal Investigator: Au Yit Moy, Hospital Raja Permaisuri Bainun, Ipoh

65. The Study Of Adult Attention-Deficit Hyperactivity Disorder And Its Associated Factors In A Malaysian Forensic Mental Institution  
   Principal Investigator: Luke Woon Sy-Cherng, Hospital Bahagia Ulu Kinta

66. Survey On Medicines Cost Per Prescription At Out-Patient Settings In Ministry Of Health Malaysia  
   Principal Investigator: Norazlin A.Kadir, Pharmaceutical Services Division, Ministry Of Health

67. Knowledge, Attitude And Practice Towards Pap Smear Screening Among Female Patients Admitted Into O&G Wards, Hospital Seri Manjung  
   Principal Investigator: Tharmini Supramaniam, Quest International University Perak

68. Kajian Persepi Anggota Hospital Taiping Terhadap Program Pemeriksaan Kesihatan  
   Principal Investigator: Ahmad Mu’alzaffardan Putra Kamaruddin, Hospital Taiping

69. Pengetahuan, Sikap Dan Amalan: Penyusuan Susu Ibu Secara Eksklusif Dalam Kalangan Ibu Hamil Di Klinik Kesihatan Hutan Melintang  
   Principal Investigator: Sandrakalaa Sewaguru, Hospital Slim River

70. Women’s Decision-Making And Development Of A Decision Support Intervention For Risk Management Of Breast Cancer In Malaysian Women With BRCA Mutations  
   Principal Investigator: Yeoh Kar See, UM

71. Outcome Of Nephrologist Driven Peritoneal Catheter Dialysis Insertion In A Single Center  
   Principal Investigator: Loh Chek Loong, Hospital Raja Permaisuri Bainun

72. Evaluating Pharmacists’ Satisfaction With Pharmacy Information System (PHIS) In Primary Care Health Clinics In Kinta  
   Principal Investigator: Ngeoh Li Yuen, Klinik Kesihatan Pasir Pinji

73. Critical Aspects of Clinician-Patient Interactions in Audiology: Which Audiologists? Behaviours During Initial Hearing Aid Consultation Promote Better Hearing Aid Use For Adult Patients With Hearing Aid?  
   Principal Investigator: Noor Afzarini Hasnita Ismail, University Of Manchester

74. Development Of Donor Database On Rhesus Phenotype Among Voluntary Blood Donors With Rh(D) Positive In Hospital Taiping  
   Principal Investigator: Saraneyasree Subramaniam, Clinical Research Centre (CRC), Hospital Taiping

75. The Level of Positive Emotion And Associated Factors In Patients With Depression At The Outpatient Clinic Of Hospital Bahagia Ulu Kinta (HBUK)  
   Principal Investigator: Fatihah Addawiah Mohamed, Hospital Bahagia Ulu Kinta

76. An Audit Study Of Utilisation And Documentation Of Dabigatran In Malaysia  
   Principal Investigator: Doris George Visuvasam, Hospital Ipoh

77. The Prevalence And Impact Of Diabetic Peripheral Neuropathy In Primary Care Clinics In Malaysia  
   Principal Investigator: Devanandhini Krisnan, Hospital Raja Permaisuri Bainun, Ipoh
78. Enteral Nutrition In Malaysian Intensive Care Unit: A Point Prevalence Study Of Prescription Practices  
   **Principal Investigator:** Aizad Azahar, UPM

79. Adequacy Of Energy And Protein Intake Among Hospitalized Patients On Therapeutic Diet In Government Hospitals  
   **Principal Investigator:** Norshariza Jamhuri, National Cancer Institute (NCI)

80. Resolution Of Obesity Related Urinary Incontinence & Sexual Dysfunction And Its Associated Risk Factors - Obstructive Sleep Apnoea & Diabetes Mellitus: Short Term Urological Outcomes Of Bariatric Surgery In Malaysia  
   **Principal Investigator:** Prema Muninathan, Clinical Research Centre (CRC), Hospital Taiping

81. Stapleless Laparoscopic Sleeve Gastrectomy: A Pilot Study To Establish Safety, Efficacy And Cost Effectiveness In A Non Tertiary Centre In Malaysia  
   **Principal Investigator:** Prema Muninathan, Clinical Research Centre (CRC), Hospital Taiping

82. Kajian Kesedaran Perlindungan Sinaran Di Kalangan Pesakit Dan Orang Awam Di Hospital Raja Permaisuri Bainun  
   **Principal Investigator:** Roslina Binti Ismail, Hospital Raja Permaisuri Bainun, Ipoh

83. Validating The Ability Of The Sodergren Score To Guide Management Of Symptomatic Haemorrhoids In A Malaysian  
   **Principal Investigator:** Galen Sha Hon Leong, Hospital Raja Permaisuri Bainun, Ipoh

84. Contributing Factors Of Pregnancy Among Unmarried Teenagers Attending Antenatal Clinic In Batu Gajah During 2016  
   **Principal Investigator:** Arputajulie Anthony, Klinik Kesihatan Ibu Dan Anak Batu Gajah

85. Illness Is Work: A Questionnaire Survey On Self-Treatment Among Medical Practitioners  
   **Principal Investigator:** Banu Nisa Abdul Hamid, PPUKM

86. Research On Working Memory, Executive Functioning And Information Processing Speed Associated To Functional Outcomes In Stable Outpatients With Schizophrenia In Hospital Bahagia Ulu Kinta  
   **Principal Investigator:** Sasitharan Moorthi, Hospital Bahagia Ulu Kinta

87. The Quality of Shift-To Shift Nursing Report in Public Hospital In Malaysia  
   **Principal Investigator:** Malathi Govindasamy, Clinical Research Centre (CRC), Hospital Pulau Pinang

88. Comparison Between Automated Grading System And Manual Grading Of Fundus Photographs For The Screening Of Diabetic Retinopathy  
   **Principal Investigator:** Amalina Juares Rizal, Hospital Selayang

89. To Audit The Ability Of Health Care Providers To Detect And Act On Growth Failure Of Orang Asli Children Below 5 yr  
   **Principal Investigator:** Chew Chii Chii, Clinical Research Centre (Perak)

90. Knowledge And Willingness Of District Hospital And Health Clinics Staffs In Research Registration Pre And Post NMRR Training Workshop  
   **Principal Investigator:** Chiew Shoen Chuen, Clinical Research Centre (CRC), Hospital Seri Manjung

91. Teleconsultation Success Model For Knowledge Exchange Between Medical Practitioners  
   **Principal Investigator:** Rohaini Ramli, UNITEN

92. Prevalence Of Nicotine Dependence In Patients With Major Depressive Disorders  
   **Principal Investigator:** Nurzamhuda Zamli, Hospital Raja Permaisuri Bainun, Ipoh

93. Effect of Psychological Empowerment as Mediator And Workplace Spirituality As Moderator In Relationship Leader-Member Exchange And Organizational Citizenship Behavior Among Malaysia Public Hospital’s Nurses.  
   **Principal Investigator:** Junaidah Yusof, UTM
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Principal Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>94.</td>
<td>Tahap Kepuasan Bekerja Di Kalangan Anggota Kesihatan Dalam Memberi Perawatan Terhadap Pesakit Di Wad Infirmari(Medikal) Hospital Bahagia Ulu Kinta</td>
<td>A Sobna Annamalai, Kolej Sains Kesihatan Bersekuatu Sultan Azlan Shah, Ulu Kinta</td>
</tr>
<tr>
<td>95.</td>
<td>Knowledge and Practice On Preconceptional Folate Intake Among Productive Age Group Women</td>
<td>Haymalatha Rajagam, Kolej Sains Kesihatan Bersekuatu Sultan Azlan Shah, Ulu Kinta</td>
</tr>
<tr>
<td>96.</td>
<td>Experience Of Teenage Pregnancy At Government Primary Health Care Centres In Perak</td>
<td>Prema Muninathan, Clinical Research Centre (CRC), Hospital Taiping</td>
</tr>
<tr>
<td>97.</td>
<td>A Study Of Identification Of The Risk Associated Between Gout, Uric Acid Level And Metabolic Syndrome</td>
<td>Nurul Wahida Md Zuki, UniKL-RCMP</td>
</tr>
<tr>
<td>98.</td>
<td>A Study On Quality Of Life Of Diabetic Foot Ulcers Patients At Klinik Kesihatan In Kinta</td>
<td>Nur Amalina Razali, UniKL-RCMP</td>
</tr>
<tr>
<td>99.</td>
<td>Dangerous Student Vehicle Drop-Off Or Pick-Up Behaviours And The Built Environment Of Primary Schools In A City Of Malaysia</td>
<td>Teoh Yen Lin, Hospital Pulau Pinang</td>
</tr>
<tr>
<td>100.</td>
<td>Screening and Management Of Diabetic Nephropathy:  A Clinical Audit In Batang Padang? Government Primary Care Clinics.</td>
<td>Suriata Daud, Pejabat Kesihatan Daerah Batang Padang</td>
</tr>
<tr>
<td>101.</td>
<td>A Quasi-Experimental Approach Towards Impact Of Lean-Dean On Emergency Department Operational Performance</td>
<td>Tiong Ngee Wen, UM</td>
</tr>
<tr>
<td>102.</td>
<td>Exploring the Prevalence of Helmet Usage among Student Motorcyclist in Malaysia</td>
<td>Netia Jeganathan, Hospital Raja Permaisuri Bainun, Ipoh</td>
</tr>
<tr>
<td>103.</td>
<td>Are Our Young Children Cared For Safely At Shopping Complexes By Parents?</td>
<td>Chang Chee Tao, Hospital Raja Permaisuri Bainun, Ipoh</td>
</tr>
<tr>
<td>104.</td>
<td>Medication Error Reported In Hospital Slim River From 2013 To 2016</td>
<td>Chang Chee Tao, Hospital Raja Permaisuri Bainun, Ipoh</td>
</tr>
<tr>
<td>105.</td>
<td>Escalator Safety Among Children</td>
<td>Nurul Natasha Mazlan Kolej Sains Kesihatan Bersekuatu Sultan Azlan Shah, Ulu Kinta</td>
</tr>
<tr>
<td>106.</td>
<td>Parent - Teenager Communication In The Digital Era</td>
<td>Nurhusna Sahidin, Kolej Sains Kesihatan Bersekuatu Sultan Azlan Shah, Ulu Kinta</td>
</tr>
<tr>
<td>107.</td>
<td>Bullying Of Emergency Department Doctors By Patients And Relatives At Malaysian Regional Referral Hospitals</td>
<td>Kavita Jetly Jagjit Kumar Jetly, Clinical Research Centre (Perak)</td>
</tr>
<tr>
<td>108.</td>
<td>Weighing Pressurised Metered Dose Inhaler Canister As A Dose Counting Method</td>
<td>Gobi Hariyanayagam Gunasekaran, Hospital Seri Manjung</td>
</tr>
</tbody>
</table>
1. **Novel Scoring for TB Screening, A More Targeted Approach?**  
   *Principal investigator: Chiew Shoen Chuen, CRC Manjung, Hospital Seri Manjung*

2. **Socio-demographic and Clinical Factors Associated With Defaulting Outpatient Appointments In A Psychiatric Clinic**  
   *Principal Investigator: Lee Wen Jih, Hospital Bahagia Ulu Kinta*

3. **Orbital Apex Epidermoid Cyst - A Rare Cause of Compressive Optic Neuropathy in a Patient Post Functional Endoscopic Sinus Surgery**  
   *Principal investigator: Koh Yi Ni, Hospital Raja Permaisuri Bainun, Ipoh*

   *Principal investigator: Chang Chee Tao, CRC Perak, Hospital Raja Permaisuri Bainun, Ipoh*

5. **Evaluation of Cost & Quality of Newborn Hearing Screening Programmes in Ministry Of Health (MOH) Facilities**  
   *Principal investigator: Mohd Riduan Che Abdullah, Hospital Tuanku Jaafar, Seremban*

6. **Shorter Intravenous Antibiotics Therapy in Complicated Appendicitis is not Associated with Increased Risk of Surgical Site Infection**  
   *Principal investigator: Mohd Firdaus Zulkifli, Hospital Teluk Intan*

7. **Patient Satisfaction among Adult Patient attending Outpatient Department of Klinik Kesihatan Greentown, Ipoh**  
   *Principal investigator: Mohamad Fadli Kharie, KK Greentown*

   *Principal investigator: Pridhivraj Naidu, UUM*

9. **An atypical manifestation of facial abscess in scurvy: A case report**  
   *Principal Investigator: Sumathy Perumal, Hospital Teluk Intan*

10. **Enhancement of Relevant National Policies for Effective TB Management: Lesson Drawing and Control**  
    *Principal investigator: Khairiah @ Salwa Mokhtar, USM*

11. **Siphoning Diesel: A Fatal Mistake**  
    *Principal investigator: Leong Wei Cheng, Hospital Teluk Intan*

12. **NSAIDs and Aspirin use among UGIB & Peptic Ulcer Patients Hospitalized in Surgical Wards of Perak Government Specialist Hospitals: A Multicentre Observational Study**  
    *Principal investigator: Chiew Shoen Chuen, CRC Manjung, Hospital Seri Manjung*

    *Principal investigator: Noor Azzah Said, USM*

14. **Tuvalang Honey in Head and Neck Cancer Patients-Effects on Cancer Related Fatigue and Quality of Life**  
    *Principal Investigator: Viji Ramasamy, Hospital Taiping*

15. **Effect of storage conditions on complete blood count cell parameters**  
    *Principal Investigator: Aziah Tanzizi, KK Menglembu*

16. **Pharmacoepidemiological Study of the Use of Analgesics Among Geriatric Outpatients in Northern Perak, Malaysia**  
    *Principal investigator: Chan Wai Seong Christopher, CRC Taiping, Hospital Taiping*
17. Preference of antibiotics choices for urinary tract infection patients among health care practitioners in Pejabat Kesihatan Daerah Larut Matang & Selama
   \textit{Principal investigator: Thiwananthan Subramaniam, Hospital Teluk Intan}

18. Knowledge, Awareness and Perceptions on Human Papilloma Virus (HPV) Vaccination among the Hospital Staffs in Hospital Taiping, Perak, Malaysia
   \textit{Principal investigator: Wan Azuati Wan Omar, Hospital Taiping}

19. A survey on Paediatric Daycare Anaesthesia practices in Malaysia
   \textit{Principal investigator: Tham Choon Kong, Hospital Raja Permaisuri Bainun, Ipoh}

20. Audit on Effective Family Planning Practice Among High Risk Post-natal Patients at Klinik Kesihatan Buntong
   \textit{Principal Investigator: Nuha Zhafirah Nor A'zam, UniKL-RCMP}

21. Septal Capillary Hemangioma- A Case Report
   \textit{Principal investigator: Steuphen Roy Peter Joseph Roy, Hospital Raja Permaisuri Bainun, Ipoh}

22. Case Of Cytomegalovirus Pneumonia
   \textit{Principal investigator: Lee Tjen Jhung, Hospital Teluk Intan}

23. A Visual Based Cognitive Assessment Test (VCAT) for the Early Diagnosis of Dementia in Multilingual Population in Malaysia
   \textit{Principal investigator: Chin Chen Joo, CRC Seberang Jaya Hospital}

   \textit{Principal investigator: Siti Salmiah Mohd Yunus, PPUKM}

25. Mengkaji Penglibatan Pesakit Strok dalam Aktiviti “Leisure”
   \textit{Principal investigator: Nur Aaina Aqilah Ahmad Jazmi, Hospital Raja Permaisuri Bainun, Ipoh}

26. The Impact of Legionella Urine Antigen Testing (LUAT) on the Local Epidemiology and Diagnosis of Legionella Pneumonia - A hospital based study in Malaysia
   \textit{Principal investigator: Albert Iruthiaraj L. Anthony, Hospital Taiping}

27. Endoscopic Dacrocystorhinostomy: Reliability of Office Assessment and Outcome of Technique Variation.
   \textit{Principal investigator: Pathma Letchumanan, Hospital Raja Permaisuri Bainun, Ipoh}

   \textit{Principal investigator: Christopher Sim Sze Bing, Hospital Teluk Intan}

29. A Young Male Presenting With Lupus Vasculitis Young Male, Lupus Vasculitis
   \textit{Principal investigator: Hairulhadi Ariff, Hospital Teluk Intan}

30. Evaluation of 2015 Cardiotocograph FIGO Classification for Intrapartum Fetal Hypoxia/Acidosis in Hospital Raja Permaisuri Bainun Ipoh
   \textit{Principal investigator: Kaamini Planisamy, Hospital Raja Permaisuri Bainun, Ipoh}

31. Life Threatening Parapharyngeal And Retropharyngeal Abscess in an Infant.
   \textit{Principal investigator: Anusha Balasubramanian, Hospital Raja Permaisuri Bainun, Ipoh}

32. The Accuracy of the CRE-AF Media in identifying Carbapenem Resistant Enterobacteriaceae
   \textit{Principal investigator: Eida Nurhadzira Muhammad, Hospital Raja Permaisuri Bainun, Ipoh}
33. Estimation of Local Incidence of Jellyfish Envenomation in Develop Marine Coastal Areas and Large Populated Islands of Western Peninsular Malaysia using Case Surveillance of Government Health Facilities in Manjung, Perak and Langkawi

Principal investigator: Ahmad Khaldun Ismail, PPUKM

34. Faktor Risiko Penyalahgunaan Dadah di Kalangan Pelajar di Padang Polo, Perak

Principal investigator: Wan Izzatul Akmal Yahaya, KSKB Sultan Azlan Shah

35. Assessment of Knowledge and Awareness Regarding Asthma Among the Taiping Public

Principal investigator: Wan Azuati Wan Omar, Hospital Taiping

36. Keberkesanan Kaedah Perancang Keluarga dalam Kalangan Ibu Berisiko di Klinik Kesihatan Manjoi, Perak

Principal investigator: Lawrence Anak Jubang, Klinik Kesihatan Manjoi

37. Comparative Study on Effect of Tualang Honey and Triamcinolone Impregnated Nasal Packing in Patients Post-Endoscopic Sinus Surgery

Principal investigator: Guhan Kumarasamy, Hospital Raja Permaisuri Bainun, Ipoh


Principal investigator: Noor Mahazrinna Hayadin, Hospital Raja Permaisuri Bainun, Ipoh

39. Dysemorrhoea, its Risk Factors and Treatment Seeking Behaviour among Women in Reproductive Age Groups in Primary Health Clinic of Chemor

Principal investigator: Nurhazwani Othman, UniKL-RCMP

40. Knowledge and Attitude towards Common Blood-Borne Infections among Intravenous Drug Users Attending Methadone Clinic at Hospital Raja Permaisuri Bainun, Ipoh, Perak, Malaysia

Principal investigator: Ismail Faiz Abd Hafi, UniKL-RCMP

41. FS-ICU: Family Satisfaction In A Multidisciplinary ICU

Principal investigator: Calvin Wong Ke Wen, Hospital Raja Permaisuri Bainun, Ipoh

42. The Experiences of Kinesiology Taping among Patients with De Quervain’s Tenosynovitis

Principal investigator: Logesparee Vijaya Kumar, Hospital Teluk Intan

43. Severe Transient Myeloproliferative Disorder (TMD) In A Newborn: A Case Report

Principal investigator: Too Jun Kin, Hospital Raja Permaisuri Bainun, Ipoh

44. Effect of Health Education on Safe Patient Handling among Nurses of Government Elderly Care Homes in West Coast Malaysia

Principal investigator: Ezy Eriyani Nadzari, UPM

45. Nasopharyngeal carcinoma of the inferior turbinate

Principal investigator: Anusha Balasubramanian, Hospital Raja Permaisuri Bainun, Ipoh

46. Pregnancy-induced Hypertension and its Risk Factors among Pregnant Women attending Klinik Kesihatan Manjoi, Perak

Principal investigator: Balqis Ardani Azmi, UniKL-RCMP

47. The Ability of Pharmacy Staff in Detecting Prescribing Errors in the Paediatric Outpatient Setting

Principal investigator: Yip Yan Yee, Hospital Teluk Intan

48. Prevalence of Significant Weight Gain of Patients on Psychotropic Drugs Attending Psychiatric Clinic of HSM

Principal investigator: Murniyati Abd Wahid, Hospital Seri Manjung
49. Dengue Seroprevalence Study in Malaysia  
   Principal investigator: Chong Zhuo Lin, UM

50. Prevalence of Influenza Vaccination Uptake and Associated Factors among Healthcare Workers in a Tertiary Hospital  
   Principal investigator: Rosidah Omar, Hospital Raja Permaisuri Bainun, Ipoh

51. The three-dimensional mapping of the surface analysis of electromagnetic navigation systems in ethnic Malaysian features  
   Principal investigator: Zabrina Marnel Samarakkody, Hospital Raja Permaisuri Bainun, Ipoh

52. The Effects of Exercises in Prevention of Fall Among Male and Female Patients in Psychogeriatric Wards in Hospital Bahagia Ulu Kinta - A Prospective Study  
   Principal investigator: Kanchana Radakrishnan, Hospital Bahagia Ulu Kinta

53. Bedside Transthoracic Echocardiography: A Tool To Diagnose Myocardial Infarction  
   Principal investigator: Chung Wai Keat, CRC Perak, Hospital Raja Permaisuri Bainun, Ipoh

54. The Study of Pharmaceutical Care Issues in Paediatric Critical Care, Hospital Raja Permaisuri Bainun, Ipoh  
   Principal investigator: Nur Fardila Firdaos, Hospital Raja Permaisuri Bainun, Ipoh

55. Emergency Ultrasound Educational needs Assessment among Emergency Medicine Doctors in Malaysia.  
   Principal investigator: Nadzifah Misran, PPUM

56. Faktor-Faktor Berkaitan Mal pemakanan dalam Kalangan Kanak-Kanak Orang Asli selepas Didiscaj daripada Program Refeeding di Hospital Kerajaan  
   Principal investigator: Ajlaa Rasid, UKM

57. Datura Fruit Poisoning  
   Principal investigator: Chian Yee Yau, Hospital Taiping

58. Increasing Compliance Rate to Panretinal Photocoagulation Laser Therapy among Proliferative Diabetic Retinopathy Patients in Ophthalmology Clinic of Hospital Raja Permaisuri Bainun, Ipoh  
   Principal investigator: Gunavathy Nandakumal, Hospital Raja Permaisuri Bainun, Ipoh

59. I Am Sick, But I Do Not Know How to Complain Autonomic Dysreflexia  
   Principal investigator: Asha Parveen, Hospital Taiping

60. A Case Series of Dermatological Emergencies-Erythroderma  
   Principal investigator: Tan Thai Lun, Hospital Seri Manjung

61. Fatal Leptospirosis And Escherichia coli Co-infection In A Post-partum Woman  
   Principal investigator: Tan Thai Lun, Hospital Seri Manjung

62. Antifungal susceptibility testing of Candida sp. isolated in blood and sterile body fluids among patients admitted in Hospital Raja Permaisuri Bainun.  
   Principal investigator: Sunthara Vathani Raman, Hospital Raja Permaisuri Bainun, Ipoh

63. Family caregiver’s strain index and their satisfaction towards palliative care services in tertiary hospital  
   Principal investigator: Kok Lee Min, Hospital Putrajaya

64. Clotting Performance Analysis in Tube Coagulase Test (TCT) for Staphylococcus aureus Identification  
   Principal investigator: Nor Siti Khadijah Berhonuddin, Hospital Taiping
INVESTIGATOR INITIATED RESEARCH

65. A survey: Job satisfaction Among Physiotherapists in Perak State under MOH
   Principal Investigator: Kogilavani S. Krishnan, CRC Taiping, Hospital Taiping

66. Tahap Kualiti Hidup Keluarga yang Menjaga Pesakit di Wad Paliatif
   Principal Investigator: Nor ‘Atifah Kamri, KSKB Sultan Azlan Shah

67. Constipation Impact on Quality of Life of Patient in Palliative Ward Hospital Raja Permaisuri Bainun, Ipoh Perak
   Principal investigator: Fahmen Hamra Ismail, KSKB Sultan Azlan Shah

68. Tahap Pengetahuan, Sikap dan Pengamalan Jururawat dalam Penjagaan Mulut untuk Pesakit Paliatif di Hospital Raja Permaisuri Bainun, Hospital Batu Gajah, Hospital Selayang and Hospital Pulau Pinang
   Principal investigator: Dayaani Sarawanabawan, KSKB Sultan Azlan Shah

69. Chronic Myelomonocytic Leukemia with Leukemic Cuts and Severe Ocular Surface Disease, Blepharitis, Conjunctivitis.  
   Principal investigator: Yeo Kai Chi, Hospital Raja Permaisuri Bainun, Ipoh

70. Policies on requesting for Group, Screening & Hold (GSH) and Group Crossmatching (GXM) in Obstetric & Gynaecology Department (O&G) : A Multicentre Study
   Principal Investigator: Nor Hafizah Ahmad, Pusat Darah Negara

71. Blood Transfusion Requirement in Lower Section Caesarian Section (LSCS) in Obstetric & Gynaecology (O&G) Department : A Multicentre Study
   Principal Investigator: Nor Hafizah Ahmad, Pusat Darah Negara

72. Effectiveness of a Hearing Conservation Program (HCP) in prevention of Noise-Induced Hearing Loss among Vector Control Workers of Ministry of Health (MOH) in the state of Perak, Malaysia : A Cluster Randomised Controlled Trial.
   Principal Investigator: Rama Krishna Supramanian, UM

73. Left Atrial Myxoma Presented as Inferior Leads ST-elevation on ECG: A Case Report
   Principal Investigator: Mohd Firdhaus Mohd Nor, Hospital Taiping

74. Internal laryngocoele
   Principal Investigator: Anusha Balasubramanian, Hospital Raja Permaisuri Bainun, Ipoh

75. Exploring Health Products Procurement Process among Retailers in Perak
   Principal Investigator: Ong Guan Boon, Duchess of Kent Hospital, Sandakan

76. Evaluation of Tuberculosis Surveillance in Perak, Malaysia
   Principal Investigator: Shubash Shander Ganapathy, Institut Kesihatan Umum

77. Dietary Practices causing Anemia among 3rd Trimester Mothers at KKIA Pengkalan Pegoh
   Principal Investigator: Noor Sharmila Sarip @ Khalid, KSKB Sultan Azlan Shah

78. Factors Associated with Late Antenatal Booking among Pregnant Mother at Klinik Kesihatan Sungai Siput (U), Perak
   Principal investigator: Nurashikin Mustapa , KSKB Sultan Azlan Shah

79. Knowledge, Attitude, and Practice of Family Planning Services among Multipara Mother at Antenatal Clinic HRPB
   Principal Investigator: Nurhakimah Jamaluddin, KSKB Sultan Azlan Shah

80. A Study of Early Anaemia in Teenage Pregnancy does not Affecting the Birth Outcome at Obstetric and Gynaecology Department of Hospital Raja Permaisuri Bainun Ipoh
   Principal Investigator: Balqis Husna Shahabudin, KSKB Sultan Azlan Shah
INVESTIGATOR INITIATED RESEARCH

81. Penggunaan Fetal Kick Chart dalam kalangan Ibu Antenatal
   Principal investigator: None Rahimah Thrin @ Taharin, KSKB Sultan Azlan Shah

82. Risk Factors of Hypertensive Disorder During Pregnancy Among Antenatal Mother In Antenatal Clinic Hospital Raja Permaisuri Bainun
   Principal investigator: Nurulfadhliah Halideh, KSKB Sultan Azlan Shah

83. Awareness of Poor Birth Spacing among Mothers Visiting KK Jelapang
   Principal investigator: Thivyashalini Sivagurunathan, KSKB Sultan Azlan Shah

84. Extensive Small Bowel Ischaemia Resulting from a Perforated Colonic Diverticulitis. A Rare Case Report
   Principal investigator: Galen Sha Hon Leong, Hospital Raja Permaisuri Bainun, Ipoh

85. Prolonged ileus after blunt trauma- To operate or not to operate? A case report.
   Principal investigator: Galen Sha Hon Leong, Hospital Raja Permaisuri Bainun, Ipoh

86. Knowledge and Skills are Essential in Position for Surgery Patients to Prevent Pressure Ulcer
   Principal investigator: Nornadiyah Ismail, KSKB Sultan Azlan Shah

87. Knowledge and Practice of Surgical Count among the Nurses in Operating Room at Regional Referral Hospital
   Principal investigator: Kamalam Parameswaran, KSKB Sultan Azlan Shah

88. Prevention the level of knowledge onNeedle Stick and Sharp injuries among perioperative Nurses in Hospital Raja Permaisuri Bainun,Ipoh
   Principal investigator: Neelavani Appalasamy, Hospital Raja Permaisuri Bainun, Ipoh

89. Practice of laryngeal mask airway insertion and incident of sore throat among post operative patient daycare surgery in Hospital Raja Permaisuri Bainun (HRPB)
   Principal investigator: Nor Hidayah Che Razali, KSKB Sultan Azlan Shah

90. Improving Nurses Pain Management in Post Anesthesia Care Unit (PACU) in Hospital Raja Permaisuri Bainun, Ipoh
   Principal investigator: Wan Jumaini Wan Hassan, KSKB Sultan Azlan Shah

91. A Case Control Study : Tuberculosis and its Associated Factors among Type 2 Diabetics
   Principal investigator: Yong Kui Choon, PPUM

92. Mothers’ Preference of Staff Gender During Child Birth
   Principal investigator: Awisul-Islah Ghazali, Hospital Taiping

93. Prevalence of Hypertension at Blood Pressure Screening Campaigns in Conjunction with World Hypertension Day: A Multi-Centre Cross-Sectional Study
   Principal investigator: Chia Yook Chin, PPUM

94. Association of Pharmacogenomics Markers in the Human Leukocyte Antigens (HLA) Coding Genes and Allopurinol Induced Severe Cutaneous Adverse Reactions
   Principal investigator: Tang Min Moon, Hospital Kuala Lumpur

95. Workplace Hazards Assessment at Central Sterile Supply Unit of a District Specialist Hospital
   Principal investigator: Nor Faezah Zawawi, Hospital Seri Manjung

96. Penggunaan Telefon Pintar di Kalangan Kanak-Kanak Berumur 2-6 tahun di Taman Rekreasi Sultan Abdul Aziz, Ipoh
   Principal investigator: Wan Khairul Huda Wan Hatta, Hospital Raja Permaisuri Bainun, Ipoh
97. Malaysian Valvular Heart Disease Survey - An Observational Study of Patients with Valvular Heart Disease in Malaysia  
Principal investigator: Rozila Harun, Hospital Sungai Buloh

98. Effective and Inexpensive Way of Treating Intramedullary Infection In Long Bone Intramedullary  
Principal investigator: Amrik Singh Ranjit Singh, Hospital Seri Manjung

99. Kejadian Pesakit Agresif di Wad Kemasukan Lelaki Hospital Bahagia Ulu Kinta Perak  
Principal investigator: Mohd Fairuz Ahmad Bakhtiar, Hospital Bahagia Ulu Kinta, Perak

100. Case Report of a Child Presenting with Atypical Kawasaki  
Principal investigator: Haema Shunmugarajoo, Hospital Raja Permaisuri Bainun, Ipoh

101. Persistent Teary Bleeding Post Upper Eyelid Laceration Repair: A Case Report  
Principal investigator: Ruknesvary Subramaniam, Hospital Raja Permaisuri Bainun, Ipoh

102. Tahap Pengetahuan Restrain Dalam Kalangan Staf Di Hospital Bahagia Ulu Kinta 2017  
Principal investigator: Pricillia Anak Ganie, KSKB Sultan Azlan Shah

103. Impact of bariatric surgery in management of diabetes, hypertension and dyslipidaemia among obesity patient  
Principal investigator: Tan Kar Choon, Hospital Taiping

104. Healthcare professionals views and practices on a health screening programme for men in primary care in Malaysia: An online survey  
Principal investigator: Ng Chirk Jenn, UM

105. Medication Adherence Survey in Malaysia  
Principal investigator: Chan Pui Lim, Pharmaceutical Services Division, Ministry of Health

106. A Retrospective Review to Determine the Actual Percentage of Preventable Under-5 Deaths in Malaysia  
Principal investigator: Lim Xin Jie, CRC Perak, Hospital Raja Permaisuri Bainun, Ipoh

107. Penile Auto-Amputation In ESRF with Acute Ulcer  
Principal investigator: Shivani Rajasegaran, Hospital Raja Permaisuri Bainun, Ipoh

108. Mainstream school readiness for normal hearing and hearing-impaired children with cochlear implants  
Principal investigator: Nanthanat Uttraphan Pim, UKM

109. Prevalence of Isolated Gastrocnemius Muscle Tightness in Patient with Diabetic Foot Ulcer  
Principal investigator: Leow Voon Chin, Hospital Raja Permaisuri Bainun, Ipoh

110. Are Siblings of Children with Autism at a Greater Risk of Behavioural and Psychological Problems as Compared to the General Population?  
Principal investigator: Chiew Shoen Chuen, CRC Manjung, Hospital Seri Manjung

111. A 2-Year Retrospective Review of Accident Cases among Motorcycle Riders Aged Less Than 16 years old, Treated Inpatient by Orthopaedic Team in a District Specialist Hospital  
Principal investigator: Thirukumaran Krishnan, Hospital Seri Manjung

112. Effects of Saxagliptin on HbA1c Level in Primary Health Care Hulu Perak  
Principal investigator: Mohamed Azzahi Mohamed Kamel, KK Lenggong

113. Parental Control on Handphone Access and Usage by Malaysian Children  
Principal investigator: Tan Mei See, Hospital Raja Permaisuri Bainun, Ipoh
114. Effects of a ten-week randomized intervention of exercise or diet on weight loss and metabolic parameters in obese adults  
   **Principal investigator:** Sreevali Muthuvadivelu, Hospital Taiping

115. A Case Control Study of Severe Acute Respiratory Illness Notified as Suspected MERS-CoV among Returning Umrah or Hajj Pilgrims from Perak State  
   **Principal investigator:** Husna Maizura Ahmad Mahir, JKN Perak

116. Extensive Subcutaneous Emphysema In A Young Man With Asthma  
   **Principal investigator:** Tan Thai Lun, Hospital Seri Manjung

117. Operating room traffic and incident of door opening in surgical case  
   **Principal investigator:** Nor Hidayah Azizuddin, KSKB Sultan Azlan Shah

118. Effectiveness of Honey as an Adjunct to Scaling and Root Planning on Clinical Parameters of Patient with Chronic Periodontitis  
   **Principal investigator:** Khamiza Zainol Abidin, Klinik Pergigian Gunung Rapat

119. Evaluation of Root Resected Molars  
   **Principal investigator:** Ten Li Hua, Klinik Pergigian Jelapang

120. Kemurungan di Kalangan Warga Tua di Rumah Seri Kenangan Ulu Kinta, Perak  
   **Principal investigator:** Siti Shazwani Mohd Hashim, Hospital Kuala Lumpur

121. Tahap Kemurungan di Kalangan Wanita Obes di Daerah Kinta, Perak  
   **Principal investigator:** Zarina Nuradin, KSKB Sultan Azlan Shah

122. Effect of Subgingival Irrigation with Perioflush on Clinical Periodontal Parameters as an Adjunct to Subgingival Root Debridement  
   **Principal investigator:** Khamiza Zainol Abidin, Klinik Pergigian Gunung Rapat

123. Empowering Neonatal Staff Nurses to Interpret Radiographs  
   **Principal investigator:** Chang Chee Tao, CRC Perak, Hospital Raja Permaisuri Bainun, Ipoh

124. Exploring Parental Awareness and Compliance to Retinopathy of Prematurity (ROP) Care after Discharge from HRPB  
   **Principal investigator:** Kavita Jetly, CRC Perak, Hospital Raja Permaisuri Bainun, Ipoh

125. Incidence of Bleeding from Post-Venesection Sites among Admitted Neonates with Neonatal Jaundice in HRPB  
   **Principal investigator:** Arvinder-Singh HS, CRC Perak, Hospital Raja Permaisuri Bainun, Ipoh

126. Health Literacy Levels and the Associated Factors in Primary Care Patients with Type 2 Diabetes Mellitus  
   **Principal investigator:** Adina Abdullah, PPUM

127. Improving the Support of Neonates Post Discharged from NICU or SCN  
   **Principal investigator:** Sharon Linus Lojikip, CRC Perak, Hospital Raja Permaisuri Bainun, Ipoh

128. A Prospective Case Control Pilot Study on Implementation of ‘Rasah Diet Plan’ for Post Sleeve Gastrectomy Muslim Patients during the Religious Fasting Month to Reduce Incidence of Metabolic Complications  
   **Principal investigator:** S.Sivapiragas M.Sivasupoanianiam, Hospital Tuanku Jaafar

129. Relationship between Psychoeducation and Insight in Patient with Schizophrenia in Hospital Bahagia Ulu Kinta  
   **Principal investigator:** Siti Aisyah Faahkaruddin, Hospital Bahagia Ulu Kinta
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Principal Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>End User Satisfaction on Implementation of Pharmacy Information System (PhIS) at MOH Malaysia</td>
<td>Teoh Iyinh Theng, Pharmaceutical Services Division, MOH</td>
</tr>
<tr>
<td>131</td>
<td>Serum antibodies to dengue and chikungunya infections and the risk of developing rheumatoid arthritis</td>
<td>Too Chun Lai, Institute of Medical Research</td>
</tr>
<tr>
<td>132</td>
<td>Inhaler Techniques of MDI Device among Asthma and COPD Patients in Hospital Teluk Intan</td>
<td>Khor Ai Lin, Hospital Teluk Intan</td>
</tr>
<tr>
<td>133</td>
<td>Information System Security Policy Compliance Model for Hospital Information System</td>
<td>Noor Fatihah Mazlam, UTM</td>
</tr>
<tr>
<td>134</td>
<td>A Randomised, Open-Label, Parallel Group, Multi-Centre Controlled Study to Evaluate the Clinical Performance and Safety of Stay Safe Link® in Patients with End-Stage Kidney Disease on Continuous Ambulatory Peritoneal Dialysis</td>
<td>Ong Loke Meng, Hospital Pulau Pinang</td>
</tr>
<tr>
<td>135</td>
<td>Prevalence of Alloantibodies during Pre-transfusion Testing among Malay, Chinese and Indian in HRPB</td>
<td>Normah Binti Mubeswar Ali, Hospital Raja Permaisuri Bainun</td>
</tr>
<tr>
<td>136</td>
<td>Antibiotic Profile for Carbapenem Resistance Enterobacteriaceae (CRE) of Klebsiella pneumonia among Hospitalized Patients in Hospital Raja Permaisuri Bainun</td>
<td>Norsyafiqah Izura Idrus, Hospital Raja Permaisuri Bainun</td>
</tr>
<tr>
<td>137</td>
<td>Comparison of Quality of Life between Patients with Below Knee Amputation Aided with Prostheses and Patients without Prostheses</td>
<td>Nur Syafiqqa Mohd Kamal, Hospital Taiping</td>
</tr>
<tr>
<td>138</td>
<td>Revision of Healthcare Demand Questionnaire for National Health and Morbidity Survey (NHMS) 2019</td>
<td>Suhana Jawahir, Institute for Health Systems Research (IHSR)</td>
</tr>
<tr>
<td>139</td>
<td>A Design Application to assist the Expressive Vocabulary Children in Speech Delay Problem And Its Campaign</td>
<td>Nurul Izzati Mohd Ali, UiTM</td>
</tr>
<tr>
<td>140</td>
<td>A Retrospective Study on Paediatric Invasive Pneumococcal Disease</td>
<td>Sithra Rengasamy @Ragasamy , Hospital Raja Permaisuri Bainun</td>
</tr>
<tr>
<td>141</td>
<td>Penyakit Malaria di Sarawak pada Zaman Kolonial British, 1946 hingga 1963</td>
<td>Nur Elya Fatin Sabuddin, UPSI</td>
</tr>
<tr>
<td>142</td>
<td>Evaluating the Efficacy of Liquid Dish Washing Soap as Xylene Substitute in Hematoxylin and Eosin Staining</td>
<td>Hema Presenaa Chandra Kumaran, Hospital Taiping</td>
</tr>
<tr>
<td>143</td>
<td>5 years school scoliosis screening program 2011 to 2015 - a clinical evaluation of epidemiology, effectiveness and limitation of scoliosis screening in Perak population</td>
<td>Mohd Syukranamri Raml, Hospital Raja Permaisuri Bainun</td>
</tr>
<tr>
<td>144</td>
<td>A Study on the Diagnostic Accuracy of BATSS for Diagnosis of Blunt Intra-Abdominal Injury in Emergency Department</td>
<td>Zarina Nauhoo Ganny, Hospital Raja Permaisuri Bainun</td>
</tr>
</tbody>
</table>
146. Phenylephrine Infusion versus Normal Saline infusion in Incidence of Wound Hematoma for Caesarean Section Patients  
Principal investigator: Keren Lim Seok Luan, Hospital Raja Permaisuri Bainun, Ipoh

147. Audit on Diabetic Retinopathy in Jelapang Health Clinic  
Principal investigator: Cheng Karmen, UniKL-RCMP

148. Audit of Dengue Fever in Klinik Kesihatan Pokok Assam  
Principal investigator: Ahmad Aiman Shiraz Ahmad, UniKL-RCMP

149. Audit on Management of Tuberculosis in Klinik Kesihatan Kamunting  
Principal investigator: Muhammad Shahir Abd Samad, UniKL-RCMP

150. A Retrospective Cross-sectional Study on Centres of Follow Up Prior to Diagnosis of Pulmonary Tuberculosis in Manjung  
Principal investigator: Tan Thai Lun, Hospital Seri Manjung

151. Acute Coronary Syndrome Patients? Knowledge and Use of Sublingual Glyceryl Trinitrate (SLGTN) Therapy in Hospital Teluk Intan Pre and Post Pharmacist Counselling Session  
Principal investigator: Nur Afiqah Ismail, Hospital Teluk Intan

152. Pain Free Hospital Rounds; A Paediatric State Referral Hospital Experience  
Principal investigator: Sindhu Viswanathan, Hospital Raja Permaisuri Bainun, Ipoh

153. Outcomes and its Predictors in Patients with Acute Kidney Injury Requiring Intermittent Hemodialysis: A Single-Centre Retrospective Cohort Study  
Principal investigator: Ng Yong Muh, Hospital Raja Permaisuri Bainun, Ipoh

154. A Clinical Audit On Monitoring Of Diabetic Patients In Klinik Kesihatan Tanjung Rambutan  
Principal Investigator: Nur Aimi Kay Mohd Rashid Kay, UniKL-RCMP

155. Comparison of Stethee® to the Conventional Stethoscope for Auscultation of Simulated Heart Sounds: A Randomised, Crossover, Non-Inferiority Trial  
Principal investigator: Amar-Singh HSS, CRC Perak, Hospital Raja Permaisuri Bainun, Ipoh

156. Acceptance of Dengue Vaccine Among Parents and Its Associated Factors at An Urban Primary Health Clinic  
Principal investigator: Boo Woi Hon, UPM

157. Audit on Management of Mothers at Risk of Developing Pre-eclampsia in KKIA Greentown  
Principal investigator: Syafia Nabilah Mohamad, UniKL-RCMP

158. Validation of Faecal Pyruvate Kinase Isoenzyme Type M2 (Faecal M2-PK Quick) Test In Detection of Colorectal Carcinoma among High Risk Malaysian Population  
Principal investigator: Syed Carlo Bin Edmund, HKL

159. Knowledge and Practices Regarding Fire Safety amongst Nurses in a Public Hospital  
Principal investigator: Salmah Mohamed Ludin, Hospital Parit Buntar

160. Outcomes of Patients With Schizophrenia Receiving Community Psychiatry Services at Hospital Bahagia Ulu Kinta  
Principal investigator: Vikram Singh Suarn Singh, Hospital Bahagia Ulu Kinta

161. A Rare Case of Aneurysmal Bone Cyst: A Case Report  
Principal investigator: Chan Yen Pei, Hospital Raja Permaisuri Bainun, Ipoh
162. Individual & Organisational Factors of Workplace Bullying Among Junior Doctors: A Multi-Centre Cross-Sectional Study  
Principal investigator: Ely Zarina Samsudin, UiTM

163. Prevalence of Medical Conditions in Children with Down’s Syndrome at HRPB  
Principal investigator: Arathi Jeyaratnam, University of St. Andrews

164. Exploring Dysarthria Management Services among Speech-Language Therapists in Malaysia  
Principal investigator: Abeer Muneer Alotaheer, UKM

165. Factors Hindering the Effectiveness of Implementing Nursing Process in a Public Hospital  
Principal investigator: Perminder Kaur Baidy Mahinder Singh, Hospital Taiping

166. Caregivers’ Awareness of Paracetamol Usage in Childhood Fever in Hospital Seri Manjung  
Principal investigator: Deepashini Rajindran, Hospital Seri Manjung

167. Oral health-related QOL of patients with and without temporomandibular disorders in a regional referral hospital  
Principal investigator: Zafirah Hani Mohamad, Hospital Raja Permaisuri Bainun, Ipoh

168. Kualiti Kehidupan Pesakit Schizophrenia setelah mendapat Rawatan di HBUK  
Principal investigator: Adni Hazuanis Adnan, KSKB Sultan Azlan Shah

169. Diagnosis Accuracy of Conjunctivitis Referral by Primary Care Practitioners to Emergency Eye Clinic of Hospital Raja Permaisuri Bainun Ipoh: A Retrospective Review  
Principal investigator: Eng Kah Joon, Hospital Raja Permaisuri Bainun, Ipoh

170. Ocular Bartonellosis: A Case Series  
Principal investigator: Farizan Ahmad Zakil, Hospital Teluk Intan

171. The Socio-demographic, Clinical and Laboratory Characteristics of Melioidosis in Hospital Taiping, Malaysia: Year 2016  
Principal investigator: Tan Sing Ying, QIUP

172. Predictors of Time to Initial Remission for Childhood Steroid Sensitive Nephrotic Syndrome.  
Principal investigator: Swe Zin Aye, Hospital Sultan Ismail

173. Kepuasan Kerja terhadap Individu di Hospital Bahagia Ulu Kinta  
Principal investigator: Noor Hazwani Kamaruzaman, Hospital Bahagia Ulu Kinta
179. Kepuasan Kerja terhadap Individu di Hospital Bahagia Ulu Kinta
   *Principal investigator: Noor Hazwani Kamaruzaman, Hospital Bahagia Ulu Kinta*

180. Evaluate Performance of Vitek 2 System and the Commercial API 20ne Biochemical Kit (bioMerieux) in Identification of Burkholderia pseudomallei in Hospital Taiping, Perak
   *Principal investigator: Noor Dhianna Abdullah, Hospital Taiping*

   *Principal investigator: Zarina Zulkifli, USM*

182. Prevelance and its Associated Factors of Undiagnosed Obstructive Sleep Apnea (OSA) among Multi-Racial Malaysian
   *Principal investigator: Klinik Kesihatan Tanjung Malim*

183. Parental Knowledge and Attitude towards Pneumococcal Disease and Pneumococcal Conjugated Vaccine among Children Less than Two Years Old in Teluk Intan.
   *Principal investigator: Nur Affza Mohd Faizal Ong, Hospital Teluk Intan*

184. Osteopetrosis? A Rare Inherited Disorder
   *Principal investigator: Suhailiza Saharudin, Hospital Raja Permaisuri Bainun, Ipoh*

185. A Study of Perception and Knowledge toward Pharmacy Value Added Service among Patient at Hospital Teluk Intan
   *Principal investigator: Aisyah Abdul Malek, Hospital Teluk Intan*

186. Prevalence of Self-Monitoring of Blood Glucose (SMBG) use Among Insulin-Treated Type 2 Diabetes Patients and Factors Influencing the Practice
   *Principal investigator: Chew Shi Wei, Remedic Clinic*

187. Disposal Practice for Unused Medications among Public in the Primary Health Clinics of District Larut, Matang & Selama
   *Principal investigator: Parameswaran Murugiah, PKD Larut, Matang dan Selama*

188. Potential Sight Threatening Disorders which Misdiagnosed as Conjunctivitis by Primary Care Practitioners and its Outcome: A Retrospective Review
   *Principal investigator: Eng Kah Joon, Hospital Raja Permaisuri Bainun, Ipoh*

189. A Randomised Clinical Trial of Helmet Continuous Positive Airway Pressure (CPAP) Versus High Flow Nasal Cannula in Acute Cardiogenic Pulmonary Oedema
   *Principal investigator: Sow Kai Fei, Hospital Raja Permaisuri Bainun, Ipoh*

190. Prospective cohort study on a new method for ultrasound-guided supraclavicular approach to the right brachiocephalic vein cannulation in adult.
   *Principal investigator: Ramzuaman Ismail, Hospital Raja Permaisuri Bainun, Ipoh*

191. The Lingual Splint: An Almost Phased-Out Traditional Approach in Management of Paediatric Mandible Fracture
   *Principal investigator: Sumathy Perumal, Hospital Teluk Intan*

192. A Study on Knowledge, Attitude and Practice on Disaster Preparedness among Hospital Staffs
   *Principal investigator: Norfarhana Azliya Razali, Hospital Raja Permaisuri Bainun, Ipoh*

193. Audit on type 2 diabetes mellitus at Klinik Kesihatan Menglembu
   *Principal investigator: Syed Amirul Firdaus Syed Mahusin, UniKL-RCMP*

194. Meningkatkan penggunaan Kontraseptif di kalangan Ibu Berisiko Tinggi
   *Principal investigator: Rathimalar Muniandy, PKD Manjung*
195. Churg-Strauss Syndrome - A Rare Systemic Vasculitis with an Element of Auto-Immunity  
   *Principal investigator*: Lam Jo Ee, Hospital Raja Permaisuri Bainun, Ipoh

196. Audit on Neonatal Jaundice in Klinik Kesihatan Gunung Rapat (KKGR) Ipoh, Perak.  
   *Principal investigator*: Nur Anissa Nasuha Jeffry, UniKL-RCMP

197. Taburan dan Maklumat Pesakit Kanser Payudara di Manjung, Perak  
   *Principal investigator*: Nurfarhani Rizal, UTM

198. Knowledge and Practice among Post-Natal Mothers regarding Neonatal Jaundice  
   *Principal investigator*: Nurul Huda Yaakap, Hospital Raja Permaisuri Bainun, Ipoh

199. A Retrospective Study on the Usage, Efficacy and Safety of Parenteral Anticoagulants as Thromboprophylaxis among Post Nataal Patients who undergone Emergency Lower Segment Caesarean Section in a Regional Referral Hospital  
   *Principal investigator*: Chew Lan Sim, Hospital Raja Permaisuri Bainun, Ipoh

200. Amalan pengambilan Folik Asid dikalangan Ibu Antenatal di Klinik Kesihatan Greentown  
   *Principal investigator*: Bazariah, KK Greentown

201. Hubungan antara Tekanan dengan Kepuasan Kerja di Kalangan Kakitangan Hospital di Negeri Perak  
   *Principal investigator*: Jayasutha Muniandy, Hospital Seri Manjung

202. Tahap Kesedaran Ibu Hamil tentang Tanda-Tanda Awal PIH  
   *Principal investigator*: Sugandy Thangaraju, KSKB Sultan Azlan Shah

203. Prospective Study on Peri-anaesthesia Complications in Malaysia (ProSPAC)  
   *Principal investigator*: Muralitharan Perumal, Hospital Tengku Ampuan Rahimah

204. Kepentingan Fetal Movement Chart terhadap Ibu Antenatal di Wad Antenatal HRPB  
   *Principal investigator*: Rohaiza Ramlan, Hospital Raja Permaisuri Bainun, Ipoh

205. Moebius Syndrome: A Case Report  
   *Principal investigator*: Nor Sheridah Mahmod, Hospital Taiping

206. Complications of Cataract Surgery among Psychiatric Patients from Hospital Bahagia Ulu Kinta from Year 2015-2016  
   *Principal investigator*: Siva Sathi Kanesan, Hospital Raja Permaisuri Bainun, Ipoh

207. Ketidakpatuhan Pengambilan Pil Perancang di Kalangan Ibu di KK Greentown  
   *Principal investigator*: Ili Nur Izyan Che Abdullah, KSKB Sultan Azlan Shah

208. Maternal Knowledge and Awareness of Basic Life Support on Preterm Babies in Paediatric Clinic  
   *Principal investigator*: Sumathi Murugaya, KSKB Sultan Azlan Shah

209. Vitrectomy for Complications of Proliferative Diabetic Retinopathy in Young Adults in Hospital Raja Permaisuri Bainun.  
   *Principal investigator*: Yeo Kai Chi, Hospital Raja Permaisuri Bainun, Ipoh

210. Patient Satisfaction in One of the Busiest Public Healthcare Clinic in Malaysia  
   *Principal investigator*: Mohamad Fadli Kharie, UPM

211. Tekanan Perasaan dikalangan Remaja Hamil Luar Nikah di Rumah Sri Putri Batu Gajah Perak  
   *Principal investigator*: Mardiana Razak, KSKB Sultan Azlan Shah
INVESTIGATOR INITIATED RESEARCH

212. Factors affecting One Year Patency Rate of Arteriovenous Fistula in the District Hospital Taiping, Malaysia
   Principal investigator: Chiar Churn Inn, Hospital Taiping

213. Efficacy of Contrast Enhanced Abdominal CT among Normal and Elevated BMI Patients
   Principal investigator: Noor Fashihah Mohd Yunas, UiTM

214. A QA Study-ECG GO using WhatsApp among House Officers
   Principal investigator: Tang Ray Yank, Hospital Teluk Intan

215. Toxic Optic Neuropathy: A Preventable Blindness
   Principal investigator: Hing Siau Tiak, Hospital Sibu

216. Kepatuhan Anggota dalam Penjagaan Pesakit Selepas Pembedahan Sendi Lutut (Total Knee Replacement) di Wad Orthopedik Hospital Seri Manjung
   Principal investigator: Noraiza Zakaria, Hospital Seri Manjung

217. Clinical Features, Treatment Outcomes and Predictors of Mortality for Melioidosis in Taiping Hospital from January 2015 to July 2017, a 30-month Experience
   Principal investigator: Chan Wai Seong Christopher, CRC Taiping, Hospital Taiping

218. Inadequate Self-Care Behaviour among Malaysian Diabetic Patients: The Need for Action by Hospital Pharmacists
   Principal investigator: Ang Ju Ying, CRC Perak, Hospital Raja Permaisuri Bainun, Ipoh

219. Pinna Granular Cell Tumor in a Child - A Case Report
   Principal investigator: Guhan Kumarasamy, USM

220. The Association between Illness Duration and Electroconvulsive Therapy Course in Schizophrenia inpatients in a Mental Institution
   Principal investigator: Shamini S. Arasalingam, Hospital Bahagia Ulu Kinta

221. Clinical Audit on Family Planning in Klinik Kesihatan Taiping
   Principal investigator: Nor Alia Mohamad, UniKL-RCMP

222. Audit on Hypertension Disorder In Pregnancy (HDP) At Klinik Kesihatan Kamunting
   Principal investigator: Natasha Eleena Yusof, UniKL-RCMP

223. A 5-year Retrospective Study on Melioidosis Cases Treated in a District Specialist Hospital
   Principal investigator: Tang Ray Yank, Hospital Teluk Intan

224. Knowledge regarding Episiotomy among Midwives in a Tertiary Centre
   Principal investigator: Lee Chi Yan, Hospital Raja Permaisuri Bainun, Ipoh

225. Management of Dengue Fever/ Dengue Haemorrhagic Fever in Klinik Kesihatan Simee Audit
   Principal investigator: Wan Nur Imanina Syukrina Wan Zulkafli, UniKL-RCMP

   Principal investigator: Zafariza binti Jaridi, KSKB Sultan Azlan Shah

227. Compliance of Yearly Screening in Diabetic Patient at Klinik Kesihatan Tronoh
   Principal investigator: Nurul Fadhilah Ahmad Kamal, UniKL-RCMP
228. Risk of Depression among Postpartum Mother prior to Discharge from the Hospital After Vaginal Delivery  
   Principal investigator: Norfareyzan Yusof, KSKB Sultan Azlan Shah

229. Role of Extracorporeal Membrane Oxygenation in Severe Leptospirosis with Pulmonary Hemorrhage: A Case Report  
   Principal investigator: Calvin Wong Ke Wen, Hospital Raja Permaisuri Bainun, Ipoh

230. Case Series: Molecular Adsorbent Recirculating System (MARS) in Conjunction with Continuous Renal Replacement Therapy (CRRT) for Acute Liver Failure with Acute Kidney Injury  
   Principal investigator: Calvin Wong Ke Wen, Hospital Raja Permaisuri Bainun, Ipoh

231. Knowledge and Practice towards Breastfeeding among Postnatal Mother at Ward 14, HRPB, Ipoh  
   Principal investigator: Nor Azila Abdul Latiff, KSKB Sultan Azlan Shah

232. Clinical Audit on Diabetes mellitus at Klinik Kesihatan Chemor, Kinta, Perak.  
   Principal investigator: Nik Abd Aziz Azizi Nik Azmi, UniKL-RCMP

233. The Association of Anticholinergic Drugs Burden among Elderly with Parkinson on Non-Motor Symptoms  
   Principal investigator: Noor Hamizah Sabki, Hospital Selama

234. Clinical Audit on Management of Patients with Diabetes Mellitus in Klinik Kesihatan Tanjung Tualang  
   Principal investigator: Sivasankran Sandra Kasan, UniKL-RCMP

235. Audit of Hypertension in Out-Patient Department Hospital Batu Gajah, Batu Gajah, Perak  
   Principal investigator: Abdul Hannan Abdul Aziz, UniKL-RCMP

236. Test Anxiety di Kalangan Remaja di Sekitar Ulu Kinta  
   Principal investigator: Bavaria Ann Linus Saguman, KSKB Sultan Azlan Shah

237. Audit on Diabetes Mellitus Management in Klinik Kesihatan Gopeng, Perak  
   Principal investigator: Nur Izzah Abdul Razak, UniKL-RCMP

238. Ultrasound Guided Percutaneous Tracheostomy In Emergency Airway Management  
   Principal investigator: Calvin Wong Ke Wen, Hospital Raja Permaisuri Bainun, Ipoh

239. Prevalence of Polypharmacy among Patients In Klinik Kesihatan Taiping and Klinik Satu Malaysia Aulong in Year 2016  
   Principal investigator: Azimah Ibrahim, Hospital Taiping

240. Hand Function Characteristics Among the Injured Workers with Hand Injuries  
   Principal investigator: Ahmad Zamir Che Daud, James Cook University

241. Diabetes Mellitus Care in Outpatient Department Hospital Kuala Kangsar  
   Principal investigator: Mohamad Khairul Afif Abdul Rasid, UniKL-RCMP

242. Pembinaan modul kaunseling untuk rawatan masalah tinitus di Malaysia  
   Principal investigator: Fatimah Sazari, Hospital Rehabilitasi Cheras

243. Surgical and Functional outcomes of Cochlear Implantation in Post-Lingual and cross over patients; First 5year review of the Malaysian National Cochlear Implant Programme  
   Principal investigator: Kumareysh Vijay Vijayan, Hospital Raja Permaisuri Bainun, Ipoh

244. Disease Burden and Outcome Measures of Patients with Thalassaemia in Malaysia  
   Principal investigator: Hishamshah Mohd Ibrahim, Hospital Kuala Lumpur
INVESTIGATOR INITIATED RESEARCH

245. Exploring Successful Return To Work after Traumatic Brain Injury
   Principal investigator: Shivani Rajasegaran, Hospital Raja Permaisuri Bainun, Ipoh

246. Amisulpride and Fluvoxamine Combination Resulting in Sinus Bradycardia. A Case Report
   Principal investigator: Shamini S. Arasalingam, Hospital Bahagia Ulu Kinta

247. Overcoming the Odds and Making it Happen; Managing Severe Haemophilia in Indigenous Children, the Hospital Raja Permaisuri Bainun, Malaysia Experience
   Principal investigator: Kelvin Goh Leong Hoe, Hospital Raja Permaisuri Bainun, Ipoh

248. The Effects Of Organizational Stressors, Role Stressors And Job-Related Stressors On Job Performance Of Nurses From Public Hospitals In Malaysia: The Role Of Burnout As A Mediator
   Principal investigator: Sabrina Naseer Khan, USM

249. The Survey on Prevalence and Risk Factors of Depression, Anxiety and Stress Among Workers at Pharmacy Department General Hospital
   Principal investigator: Azzira Liliati Salim, Hospital Raja Permaisuri Bainun, Ipoh

   Principal investigator: Uma Devi Markandan, Hospital Teluk Intan

251. Clinical Audit On Management Of Hypertension Patient In Klinik Kesihatan Tanjung Tualang
   Principal investigator: Shahirah Jaffridin, UniKL-RCMP

252. Management of Pulmonary Tuberculosis in Klinik Kesihatan Tanjung Rambutan
   Principal investigator: Nurul Wahida Mohd Zuki, UniKL-RCMP

253. Prevalence of Satisfactory and Unsatisfactory FNAC Results in Hospital Raja Permaisuri Bainun
   Principal investigator: Jasvindar Singh Selvindar Singh, UNISEL

254. Perception of Orthodontic Treatment Need in Adolescents: A Questionnaire Survey
   Principal investigator: Ong Vivian, KK Taiping

255. A Public Survey to Assess Awareness, Knowledge and Willingness Pertaining to Organ Donation and Transplantation in Malaysia
   Principal investigator: Naeema S Masohood, Hospital Sungai Buloh

256. Adolescent Safety at School: The Prevalence of Bullying Among Students in Kelantan
   Principal investigator: Khanisa Khalid, Hospital Raja Perempusan Zainab II

257. Non Specific Interstitial Pneumonia in a Pesticide Handler and Treatment with Steroid
   Principal investigator: Chiun Pei Rong, Hospital Teluk Intan

258. Case Report: Chronic Giant Sebaceous Cyst on the Arm
   Principal investigator: Thirukumaran Krishnan, Hospital Seri Manjung

259. Endoscopic Cochlear Implant: Literature Review and Current Status
   Principal investigator: Teh Hui Mon, UMMC

260. Clinical Audit on Tuberculosis Management at KK Greentown
   Principal investigator: Norshamiza Zamri, UniKL-RCMP
261. The Relationship of Employer Branding and Career Growth with Talent Retention in Public Sector: Roles of Recruitment Practices as Mediator  
**Principal investigator:** Norasyikin Shaikh Ibrahim, IIUM

262. Audit Project Diabetes Mellitus in Klinik Kesihatan Taiping  
**Principal investigator:** Muhammad Amiruddin Abu Bakar, UniKL-RCMP

263. Clinical Audit on Hypertension in Klinik Kesihatan Chemor, Kinta, Perak  
**Principal investigator:** Habibi Abdul Jalil, UniKL-RCMP

264. Audit of Effectiveness of Management of Anaemia in Pregnancy in Klinik Kesihatan Buntong  
**Principal investigator:** Siti Iliani Ahmad Kamal, UniKL-RCMP

265. Type 2 Diabetes Mellitus Care in Outpatient Department, Hospital Kuala Kangsar  
**Principal investigator:** Nurulnasuha Ahmad Sanusi, UniKL-RCMP

266. Management of Hypertension in Klinik Kesihatan Gopeng  
**Principal investigator:** Shalini Devindran, UniKL-RCMP

267. Audit on Management of Patient with Diabetes Mellitus Type 2 in Outpatient Department Hospital Batu Gajah  
**Principal investigator:** Umi Adiba Anis Che Hamid, UniKL-RCMP

268. Audit on Control of Blood Pressure among Hypertensive Patients at Klinik Kesihatan Tronoh, Perak  
**Principal investigator:** Muhammad Safiee Surtono, UniKL-RCMP

269. Audit Project Care of Anaemia in Pregnancy in Klinik Kesihatan Pokok Assam, Taiping, Perak.  
**Principal investigator:** Tasveer Kaur Baljit Singh, UniKL-RCMP

270. Evaluation of Laryngopharyngeal Reflux (LPR) in Patients undergoing Bariatric Surgery  
**Principal investigator:** Purushotman Ramasamy, Hospital Taiping

271. Cross Sectional Study: Prevalence of Self-Medication among Diabetic Patients in Hospital Teluk Intan  
**Principal investigator:** Hanani Zaheedah Helmi, Hospital Teluk Intan

272. Increase Risk of DVT in a Patient with HIV: A Case Report  
**Principal investigator:** Chow Cheah Yin, Hospital Teluk Intan

273. Evaluating Patient Understanding on Medication Labels in Farmasi Klinik Pakar, Hospital Batu Gajah  
**Principal investigator:** Fiona Ooi May See, Hospital Batu Gajah

274. Case Report: Anti-NMDA Receptor Encephalitis in a Young Child Anti-NMDA  
**Principal investigator:** Ramneeta Kaur Suarn Singh, Hospital Seri Manjung

275. Knowledge of Nurses in the Preparation, Administration and Regulation of High-Alert Medications (HAM) in Teluk Intan Hospital, Perak Darul Ridzuan, Malaysia  
**Principal investigator:** Yip Yan Yee, Hospital Teluk Intan

276. Comparison of Effectiveness and Time-Efficiency between Multimedia and Conventional Counselling on Insulin Pen Technique Education  
**Principal investigator:** Muhammad Syaiful Muhaidi, Hospital Kuala Kangsar

277. Use of identification bracelet among inpatients in Hospital Batu Gajah  
**Principal investigator:** Chong Seok Im, Hospital Batu Gajah
INVESTIGATOR INITIATED RESEARCH

278. Faktor Risiko Tingkah Laku Membunuh Diri dalam kalangan Pesakit Remaja Kemurungan: Peranan Sokongan Sosial dan Keagamaan sebagai Faktor Pelindung di Malaysia
Principal investigator: Radzi Tarmizi Abdul Halim, Hospital Tuanku Ampuan Najihah

279. The prevalence and factors associated with crude herbs use among patients with chronic diseases: A cross-sectional survey in combination with laboratory analysis.
Principal investigator: Annaletchumy Loganathan, KK Kampar

280. Bariatric Rehabilitation: Challenges in a Tertiary and District Hospital.
Principal investigator: Shivani Rajasegaran, Hospital Raja Permaisuri Bainun, Ipoh

281. Non-Surgical Management of Interstitial Pregnancies
Principal investigator: Tan Lee Na, Hospital Raja Permaisuri Bainun, Ipoh

282. Outcome of Fetal Echogenic Lung Lesions
Principal investigator: Tan Lee Na, Hospital Raja Permaisuri Bainun, Ipoh

283. Reversal of Herd Mentality and Provision of Psycho-Social Support among Parents Who Refused Vaccination in Preventing a Possible Outbreak of a Vaccine-Preventable Disease: A Case Study in Perak Tengah District
Principal investigator: Phan Ai Ping, KK Kampung Gajah

284. Childhood Pneumococcal Vaccine: Parents’ Knowledge, Opinions, Payment Strategies
Principal investigator: Hidayah Shamshuddin, KSKB Sultan Azlan Shah

285. Role of Blood Culture in Children with Community Acquired Pneumonias Who Received Intravenous Antibiotics
Principal investigator: Haema Shunmugarajoo, Hospital Raja Permaisuri Bainun, Ipoh

286. Quality of Escalator Signage for Children Safety
Principal investigator: Nurfarahdila Ahmad Malawi, KSKB Sultan Azlan Shah

287. Parental Knowledge of the Value of Booster Immunisation in Young Children
Principal investigator: Muhammad Hatta Phuah Bazlan, KSKB Sultan Azlan Shah

288. Safe Road Crossing at Primary Schools in Kinta
Principal investigator: Lily Ngah, KSKB Sultan Azlan Shah

289. Persepsi Amalan Gaya Hidup Sihat oleh Pesakit Skizofrenia
Principal investigator: Mariah Yunus, KSKB Sultan Azlan Shah

290. To Evaluate Pharmacists Knowledge on Use of Topical Corticosteroids in Atopic Dermatitis: Pre & Post Module Reading
Principal investigator: Tan Chiew Ping, Hospital Raja Permaisuri Bainun, Ipoh

291. Patient’s Expectation and Satisfaction towards Out-Patient Pharmacy Services in Hospital Teluk Intan.
Principal investigator: Nurhaifa Afiqah Bahrin, Hospital Teluk Intan

292. Compliance of Intravenous Drip Regime to Standard Operating Procedure (SOP) in Seri Manjung Hospital
Principal investigator: Zaid Abdul Rahman, IIUM

293. Relationship between Anxiety and Erectile Dysfunction Among Type 2 Diabetes Mellitus Patients
Principal investigator: David Jason Andrew, Hospital Taiping

294. Hubungkait antara Diabetic Foot Ulcer (DFU) dengan amalan Gaya Hidup Pesakit Diabetes Mellitus Type 2
Principal investigator: Ahmad Iqbal Hakim Mat Yusoff, PKD Kuala Kangsar
295. Audit on Methadone Maintenance Therapy and Outcome on Quality of Life in Jelapang Health Clinic Methadone Maintenance Therapy  
**Principal investigator:** Sharifah Syaza Syed Hashim, UniKL-RCMP

296. Amalan Penjagaan Diabetic Foot Ulcer dlm kalangan Pesakit Type 2 Diabetes Mellitus di Wad Ortopedik Hospital Taiping  
**Principal investigator:** Nor Azizah Ariffin, Hospital Kuala Kubu Bharu

297. The Relationship between HbA1c and Stages of Diabetic Retinopathy  
**Principal investigator:** Hafisazatulsima Zulkeflee, PKD Larut, Matang dan Selama

298. Management of Teenage Pregnancy in Klinik Kesihatan Manjoi  
**Principal investigator:** Muhammad Aiman Aziz, UniKL-RCMP

299. A Cross Sectional Study of Public Knowledge and Attitude towards Antibiotics in Parit Buntar  
**Principal investigator:** Kho Jia Qian, Hospital Parit Buntar

300. Evaluating of Image Quality and Exposure Factor between Horizontal Beam and Vertical Beam for Lateral Lumbosacral X-Ray for Trauma Patients by using Smart Devices  
**Principal investigator:** Muhammad Fauzee Jasini, Hospital Taiping

301. Adherence to Tyrosine Kinase Inhibitors (TKIs) among Adult Chronic Myeloid Leukemia (CML) Patients in a Regional Referral Hospital in Perak  
**Principal investigator:** Lee Pooi Mun, UniKL-RCMP

302. Tuberculosis Contact Reminder System in Improving Tuberculosis Screening and Detection Rate in Perak: An Interventional Study  
**Principal investigator:** Abdulloh Mazalan, USM

303. Clinical Audit on Routine Antenatal Care in Maternal and Child Health Clinic Kamunting Perak  
**Principal investigator:** Adilah Haludin, UniKL-RCMP

304. Clinical Audit on Management of Gestational Diabetes Mellitus in Pokok Assam Maternal and Child Health Clinic  
**Principal investigator:** Nur Amalina Razali, UniKL-RCMP

305. The Relationship between Personality Traits and Person Environment fit to Adaptive Performance among Nurses in Emergency Department Malaysia Public Hospitals  
**Principal investigator:** Athifah Najwani Shahidan, UUM

306. Designing and Modelling the Physical Ergonomics to Avoid Musculoskeletal Disorder (MSD) among Healthcare Personnel at Accident and Emergency Department at Malaysia Hospitals  
**Principal investigator:** Shaik Farid Abdull Wahab, USM

307. Pharmacist-Initiated Mental Health Screening for Depression, Anxiety and Stress Among Patients In Hospital Tapah: A Cross-Sectional Study Using Depression, Anxiety and Stress Scale (DASS)  
**Principal investigator:** Sui Chee Fai, KK Luyang

308. Assessment of Essential Learning Activities (ELAs) as a Tool for Entry into a Malaysian Professional Paediatric Training Program (A Pilot Study)  
**Principal investigator:** Anis Siham Zainal Abidin, UiTM

309. A Cross-Sectional Study on the Role of Socio-Demographic Characteristics and Time Demand towards Risk of Depression among Female Staff in UniKL Royal College Of Medicine Perak  
**Principal investigator:** Nurulnasuha Ahmad Sanusi, UniKL-RCMP
<table>
<thead>
<tr>
<th>INVESTIGATOR INITIATED RESEARCH</th>
</tr>
</thead>
</table>
| 310. Knowledge, Attitude, and Perception on Euthanasia Among Year 1 and Year 4 Medical Students of UniKL RCMP - A Comparative Study  
*Principal investigator: Stella Angela Liu, UniKL-RCMP* |
| 311. Evaluation on Use and Knowledge of Health Supplement among Undergraduate University/College Students in Ipoh  
*Principal investigator: Nur Amira Dyaina Kapeli, UniKL-RCMP* |
| 312. Self-perception of Sexual Harassment: A comparison between female medical & nursing students during clinical practice  
*Principal investigator: Hanan Asrawi Abu Bakar, UniKL-RCMP* |
*Principal investigator: Nur Shafiqah Aida Ahamad, UniKL-RCMP* |
| 314. Digoxin Pharmacokinetics in Pregnant Asian Women Treated for Supraventricular Tachycardia  
*Principal investigator: Doris George Visuvasam, Hospital Raja Permaisuri Bainun, Ipoh* |
| 315. Knowledge, Attitude and Perception of Postpartum Depression among Women attending KKIA Greentown, Ipoh  
*Principal investigator: Fatin Nabila Ismail, UniKL-RCMP* |
| 316. Decision Support System for Anterior Cruciate Ligament (ACL) Diagnosis  
*Principal investigator: Muhammad Hanif Razali, CRC Taiping, Hospital Taiping* |
| 317. Stress and Changes in Menstrual Cycle Among Students of UniKL RCMP  
*Principal investigator: Nursyuhaida Hassan @ Mohd Sa’ad, UniKL-RCMP* |
| 318. Effect of Contrast Media on Computed Tomography (CT) dose in Pre-and Post-Contrast CT of the Head  
*Principal investigator: Noor Fashihah Mohd Yunus, UiTM* |
| 319. Audit of Care of Patients with Tuberculosis in OPD Hospital Batu Gajah  
*Principal investigator: Danial Mohamad Rosni, UniKL-RCMP* |
| 320. Audit of Care of Hypertension in Klinik Kesihatan Menglembu  
*Principal investigator: Amiera Nor Azman, UniKL-RCMP* |
| 321. Immunohistochemical Study of PD-L1 Expression in Neoplastic and Non-Neoplastic Endometrium  
*Principal investigator: Chew Mianxin, Hospital Raja Permaisuri Bainun, Ipoh* |
| 322. Audit: Management of Anemia among Pregnant Women in Klinik Kesihatan Chemor  
*Principal investigator: Mohamad Zuhaili Hakim Mohamad Rani, UniKL-RCMP* |
| 323. Factors that Influence Sleep Pattern and Prevalence of Insomnia among House Officers in Kinta District  
*Principal investigator: Muhammad Abdul Azim Mustapha, UniKL-RCMP* |
| 324. Evaluation of selected Medicinal Plants for Anti-Dermatophytic and Cytotoxicity Activities  
*Principal investigator: Sit Nam Weng, UTAR* |
| 325. Pesticide Suicide Cases in Hospital Raja Permaisuri Bainun, Ipoh and their Associated Factors: A Case-Control Study  
*Principal investigator: Loo Tsui Huei, Hospital Raja Permaisuri Bainun, Ipoh* |
| 326. Workplace Incivility and Areas of Work Life Fit towards Turnover Intention of House Officers in Malaysia Public Hospitals; The Mediation of Emotional Exhaustion and Moderating Roles of Emotional Intelligence  
*Principal investigator: Wan Zhalkiatul Aida, UUM* |
327. Enhancement of Relevant National Policies for Effective TB Management in Malaysia: Lesson Drawing and Control
Principal investigator: Nur Hairani Abdul Rahman, UM

328. Dietary Practice, Nutritional Status and Non-Communicable Diseases (NCDs) Risk among Jahai Subtribe in Gerik, Perak
Principal investigator: Gan Wan Ying, UPM

329. Case Report of a Hybrid Benign and Malignant Odontogenic Tumor
Principal investigator: Ong Wan Choon, Hospital Taiping

330. Evaluation of Hba1c in Hypothyroid Patients
Principal investigator: Norazuwa Zamauri, Hospital Raja Permaisuri Bainun, Ipoh

331. Correlation between Morphology, Immunophenotyping, Cytogenetic & Molecular in Diagnosis of AML
Principal investigator: Rahil Abdul Razak, Hospital Raja Permaisuri Bainun, Ipoh

332. Treatment and Management of Tuberculosis Patients in OPD Kuala Kangsar: A Clinical Audit
Principal investigator: Muhammad Nasrulazam Nazri, UniKL-RCMP

333. Positive Emotions and the Quality of Life in the Depressed Population: The Association of Perceived Social Support
Principal investigator: Fabian Sunil Dass A S Dass, Hospital Bahagia Ulu Kinta

334. The Impact of Severity of Depression and Associated factors on Metabolic Syndrome
Principal investigator: Anildev Singh Malhi, Hospital Bahagia Ulu Kinta

335. Factors that influence Compassion Fatigue and Compassion Satisfaction in Critical Care Nurses
Principal investigator: Tuminah Sabar, Hospital Raja Permaisuri Bainun, Ipoh

336. Comfort Level of Patient With Helmet Ventilation
Principal investigator: Norshamatul Aidah Osran, KSKB Sultan Azlan Shah

337. Prevalence of Vaginal Birth after Cesarean in Hospital Seri Manjung
Principal investigator: Harivin Loganthan, QIUP

338. Management of Dengue Fever in Klinik Kesihatan Pasir Pinji -Clinical Audit
Principal investigator: Nuruljannah Abdullah, UniKL-RCMP

339. A Case Report of Hashimoto’s Encephalopathy
Principal investigator: Cheah Chun Fai, Hospital Sultanah Aminah

340. Audit on Routine Child Health Care in KK Taiping
Principal investigator: Nur Afiqah Hasnul Hadi, UniKL-RCMP

341. Clinical Audit Proposal : An Audit on Bronchial Asthma Care in Klinik Kesihatan Tronoh
Principal investigator: Nurulhidayah Mohamad Nazri, KK Tronoh

342. A Smartphone Health Application in Promoting Medications Adherence & Management in Patients with CKD
Principal investigator: Thong Kah Mean, Hospital Raja Permaisuri Bainun, Ipoh

343. Knowledge, Attitude and Awareness of Cosmetic Products among Visitors in Hospital Raja Permaisuri Bainun Ipoh Perak
Principal investigator: Siti Nur Syahira Syed Isa, Hospital Raja Permaisuri Bainun, Ipoh

344. Case Report: Anti-NMDA-receptor Encephalitis Following Dengue Fever Case
Principal investigator: Cheah Chun Fai, Hospital Sultanah Aminah
INVESTIGATOR INITIATED RESEARCH

345. Incidence of Contrast Induced Nephropathy after Contrast Enhanced CT in Hospital Taiping, Perak
   Principal investigator: Ng Cheong Koon, Hospital Taiping

346. Audit Proposal Clinical Audit on Diabetes Mellitus Patient Care In Klinik Kesihatan Tanjung Tualang, Batu Gajah
   Principal investigator: Sophia Sharom Nizan, UniKL-RCMP

347. Masson’s Tumour Of Oral Cavity
   Principal investigator: Chng Yi Mei, Hospital Taiping

348. Audit of Care of Patients with Gestational Diabetes Mellitus (GDM) in Klinik Kesihatan Gunung Rapat
   Principal investigator: Norfarah Syahirah Mohd Nifo, UniKL-RCMP

349. Multiple Keratocystic Odontogenic Tumours in Gorlin Syndrome : A Case Report Keratocystic
   Principal investigator: Sumathy Perumal, Hospital Teluk Intan

350. Adherence of Type 2 Diabetes Mellitus (T2DM) Patients Towards Diabetic Medications at Outpatient Pharmacy
   Principal investigator: Nur Amirah Adnan, Hospital Tapah

351. Incidence of Ocular Adverse Event Related to Steroid Usage in Malaysia
   Principal investigator: Duratul ‘Ain Hussin, Hospital Kuala Lumpur

352. Clinical Audit on Management of Pulmonary Tuberculosis at Klinik Kesihatan Kampung Simee
   Principal investigator: Noorul Huda Sofian Sauri, UniKL-RCMP

353. Correlation of Thyroid Imaging and Data System (TIRADS)and FNAC thyroid
   Principal investigator: Tan Ling Sze, Hospital Taiping

354. Audit of Management of Neonatal Jaundice in Klinik Kesihatan Pokok Assam
   Principal investigator: Zatul Iffah Mohamad Zabhi, UniKL-RCMP

355. Better Caretakers’ Knowledge for Better Medication Adherence in Geriatric Patients with Cardiovascular Diseases
   Principal investigator: Nurfatin Aisyah Abdul Moin, Hospital Tengku Ampuan Rahimah

356. Characterization and Significance of Clinical Isolates of Burkholderia pseudomallei in the State of Perak, Malaysia
   Principal investigator: Norirwanisyam Mohd Zain, Hospital Raja Permaisuri Bainun, Ipoh

357. Antecedents of Job Performance: Mediating-Moderating Effects Of Work Engagement And Religious Spirituality
   Principal investigator: Novia Zahrah, UUM

358. Tahap Pengetahuan berkaitan dengan Hand Hygiene dikalangan Jururawat di Unit Kejururawatan HBUK
   Principal investigator: Sarmilah Muhamad, OUM

359. Association of Education Level and Acute Stroke Outcomes, from The National Neurology Registry (NNeuR)
   Principal investigator: Chua Kin Wei, Hospital Taiping

360. MR Imaging of Neonatal Encephalopathy: An Audit of Clinical Details and Imaging Findings
   Principal investigator: Chua Yen Sheng, Hospital Taiping

361. Faktor Penyebab Kelewatan Ambulasi Awal di kalangan Ibu Postnatal di Wad 14, HRPB
   Principal investigator: Hashimah Mohd Salleh, OUM

362. Tahap Pengetahuan dalam Pencegahan Surgical Site Infection di kalangan Jururawat
   Principal investigator: Hasmaliza Hamid, OUM
INDUSTRIAL SPONSORED RESEARCH

FROM YEAR 2016 – 2017

RESEARCH IN YEAR 2016

1. An Asian, Phase 3, Multicenter, Randomized, Double-Blind, Placebo-Controlled 14-Week Study Of Ds-5565 In Patients With Diabetic Peripheral Neuropathic Pain Followed By A 52-Week Open-Label Extension
   Principal Investigator: Dr Kavita M. Bhojwani, Hospital Raja Permaisuri Bainun, Ipoh

2. A Randomized, Double-Blind, Parallel-Group, Multicentre Study To Demonstrate Similar Efficacy And To Compare Safety And Immunogenicity Of Gp2017 And Humira® In Patients With Moderate To Severe Active Rheumatoid Arthritis
   Principal Investigator: Dr Ong Ping Seung, Hospital Raja Permaisuri Bainun, Ipoh

3. A Phase 2, Randomized, Double-Blind, Placebo-Controlled Study To Evaluate The Pharmacokinetics, Safety, And Antiviral Activity Of JNJ-63623872 In Combination With Oseltamivir In Adult And Elderly Hospitalized Patients With Influenza A Infection
   Principal Investigator: Dr. Cheng Joo Thye, Hospital Raja Permaisuri Bainun, Ipoh

4. A Trial Investigating The Cardiovascular Safety Of Oral Semaglutide In Subjects With Type 2 Diabetes
   Principal Investigator: Dr GR Letchuman, Hospital Raja Permaisuri Bainun, Ipoh

5. A Phase-II, Randomized, Placebo-Controlled, Parallel-Group Clinical Trial to Study the Efficacy and Safety of Mk-1029 in Adult Subjects with Persistent Asthma That Is Uncontrolled While Receiving Montelukast.
   Principal Investigator: Dr Umadevi A. Muthukumaru, Hospital Taiping

6. A Prospective, Multicenter, Randomised, Double-Blind, Placebo-Controlled, Phase 3 Study To Compare The Efficacy And The Safety Of Masitinib Versus Placebo In The Treatment Of Patients With Severe Uncontrolled Asthma And Elevated Eosinophil Levels
   Principal Investigator: Dr Umadevi A. Muthukumaru, Hospital Taiping

7. A Phase 3, Multicenter, Randomized, Double-Blind, Placebo-Controlled Study Evaluating The Safety And Efficacy Of Roxadustat For The Treatment Of Anemia In Chronic Kidney Disease Patients Not On Dialysis
   Principal Investigator: Dr Cheah Wee Kooi, Hospital Taiping

8. A Phase 3 Double-Blind, Randomized, Placebo-Controlled, Parallel-Group Study To Assess The Efficacy, Safety And Tolerability Of Bococizumab (PF-04950615) In Asian Subjects With Primary Hyperlipidemia Or Mixed Dyslipidemia At Risk Of Cardiovascular Events
   Principal Investigator: Dr. Asri Ranga Abdullah (Prematurely terminated during start-up).

9. Phase 3, Randomized, Open-Label, Active-Controlled Study Evaluating The Efficacy And Safety Of Oral Vadadustat For The Maintenance Treatment Of Anemia In Subjects With Non-Dialysis-Dependent Chronic Kidney Disease (NDD-CKD) (Pro2tect - Conversion)
   Principal Investigator: Dr. Loh Chek Loong, Hospital Raja Permaisuri Bainun, Ipoh

10. A Phase III, Randomized, Double-Blind, Placebo-Controlled Study Evaluating The Efficacy And Safety Of Copanlisib In Combination With Rituximab In Patients With Relapsed Indolent B-Cell Non-Hodgkin’s Lymphoma (INHL) - Chronos-3
    Principal Investigator: Dr Lim Teck Choon, Hospital Raja Permaisuri Bainun, Ipoh

11. A Multicenter, National Level, Pilot Study Evaluating The Feasibility And Outcome Of A Single Low Dose Computer Tomography (LDCT) As A Screening Modality For The Detection Of Early Lung Cancer

12. A Phase 2b, Randomized, Double-Blind, Placebo-Controlled Study To Evaluate The Antiviral Activity, Clinical Outcomes, Safety, Tolerability, And Pharmacokinetics Of Orally Administered Als-008176 Regimens In Adult Subjects Hospitalized With Respiratory Syncyntial Virus
    Principal Investigator: Dr. Jeyaselaan (Prematurely terminated).
13. A Phase 3 Randomized, Open-Label (Sponsor-Blind), Active-Controlled, Parallel-Group, Multi-Center, Event-Driven Study in Dialysis Subjects With Anemia Associated With Chronic Kidney Disease To Evaluate The Safety And Efficacy Of Daprodustat Compared To Recombinant Human Erythropoietin, Following A Switch From Erythropoietin-Stimulating Agents.
   *Principal Investigator: Dr Loh Chek Loong, Hospital Raja Permaisuri Bainun, Ipoh*

14. A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Multicenter, Event-Driven Phase III Study To Investigate The Efficacy And Safety Of Finerenone, In Addition To Standard Of Care, On The Progression Of Kidney Disease In Subjects With Type 2 Diabetes Mellitus And The Clinical Diagnosis Of Diabetic Kidney Disease
   *Principal Investigator: Dr Loh Chek Loong, Hospital Raja Permaisuri Bainun, Ipoh*

15. A Randomized, Double-Blind, Placebo-Controlled, Parallel-Group, Multicenter, Event-Driven Phase III Study To Investigate The Efficacy And Safety Of Finerenone On The Reduction Of Cardiovascular Morbidity And Mortality In Subjects With Type 2 Diabetes Mellitus And The Clinical Diagnosis Of Diabetic Kidney Disease In Addition To Standard Of Care
   *Principal Investigator: Dr Loh Chek Loong, Hospital Raja Permaisuri Bainun, Ipoh*

16. An International Non-Interventional Prospective Cohort Study To Evaluate The Safety Of Treatment With Levemir® (Insulin Detemir) In Pregnant Women With Diabetes Mellitus- Diabetes Pregnancy Registry

17. “Sustain 8 - Semaglutide Versus Canagliflozin Efficacy And Safety Of Semaglutide Versus Canagliflozin As Add-On To Metformin In Subjects With Type 2 Diabetes”
   *Principal Investigator: Dr GR Letchuman, Hospital Raja Permaisuri Bainun, Ipoh*

**RESEARCH IN YEAR 2017**

1. Phase 2b, Multicenter, Randomized, Double-blind, Controlled Study to Evaluate the Efficacy and Safety of Intravenous VIS410 in Addition to Oseltamivir (Tamiflu®) Compared With Oseltamivir Alone in Hospitalized Adults With Influenza A Infection Requiring Oxygen Support
   *Principal Investigator: Dr Umadevi A.Muthukumaru, Hospital Taiping*

2. A 26 Week, Multicenter, Randomized, Placebo-Controlled, Double-Blind, Parallel Group, Phase 3 Trial with a 26 Week Safety Extension Period Evaluating the Safety and Efficacy of Dapagliflozin 5 and 10 mg, and Saxagliptin 2.5 and 5 mg in Pediatric Patients with Type 2 Diabetes Mellitus who are between 10 and below 18 years of age
   *Principal Investigator: Muhammad Hadhrami Mohd Hussain, UniKL-RCMP*

3. A multinational, multi-center, randomized, double-blind, active comparator, phase III clinical trial to evaluate the efficacy and safety of donepezil transdermal patch in patients with Alzheimer’s disease
   *Principal Investigator: Dr Esther Gunasali, UniKL-RCMP*

4. A double-blind, randomised, placebo-controlled trial evaluating the effect of BI 655064 administered as sub-cutaneous injections, on renal response after one year of treatment, in patients with active lupus nephritis.
   *Principal Investigator: Loh Chek Loong, Hospital Raja Permaisuri Bainun, Ipoh*

5. A Surveillance Program to Evaluate the In Vitro Efficacy of Zerbaxa -- a Multi-Country Global Initiative

6. A Phase 3, Multicenter, Randomized, Double-blind, Placebo-controlled Study Evaluating the Efficacy and Safety of Guselkumab Administered Subcutaneously in Subjects with Active Psoriatic Arthritis
   *Principal Investigator: Dr Ong Ping Seung, Hospital Raja Permaisuri Bainun, Ipoh*

7. A Phase 3, Randomized, Double-Blind, Study Comparing ABT-494 to Placebo and to Adalimumab in Subjects With Active Psoriatic Arthritis Who Have a History of Inadequate Response to at Least One Non-Biologic Disease Modifying Anti-Rheumatic Drug (DMARD) - SELECT - PsA 1
   *Principal Investigator: Dr Ong Ping Seung, Hospital Raja Permaisuri Bainun, Ipoh*
8. A Phase 3, Multicenter, Randomized, Double-blind, Placebo-controlled Study Evaluating the Efficacy and Safety of Guselkumab Administered Subcutaneously in Subjects with Active Psoriatic Arthritis including those Previously Treated with Biologic Anti-TNF-alpha Agent(s)
Principal investigator: Dr Ong Ping Seung, Hospital Raja Permaisuri Bainun, Ipoh

9. A Randomized, Multicenter, Double-Blind, Parallel-Group, Placebo-Controlled Study to Investigate the Efficacy and Safety of Canagliflozin in Children and Adolescents (>10 to <18 years) with Type 2 Diabetes Mellitus
Principal investigator: Muhammad Hadhrami Mohd Hussain, UniKL-RCMP

10. A prospective observational multi center study to assess the level of asthma control at government poly-health clinics (Klinik Kesihatan) in Malaysia
Principal investigator: Dr Liliwati Ismail (KK Pantai Remis)

11. A Multicenter, Multiple-dose, Active-controlled, Double-blind, Double-dummy Study to Compare the Therapeutic Efficacy and Safety of Oral Doses of Cinacalcet Hydrochloride With Intravenous Doses of Etelcalcetide (AMG 416) in Asian Hemodialysis Subjects With Secondary Hyperparathyroidism
Principal investigator: Loh Chek Long, Hospital Raja Permaisuri Bainun, Ipoh

12. Bioequivalence Study of Diamide 5mg/500mg Film-Coated Tablet vs The Comparator, Glucovance 500mg/Smg Tablet in Fed State
Principal investigator: Arvinder-Singh HS, CRC Perak, Hospital Raja Permaisuri Bainun, Ipoh

13. A Phase 3 Randomized, Double-blind, Placebo-controlled, Multi-center Study to Evaluate the Efficacy and Safety of Pimodivir in Combination With the Standard-of-care Treatment in Adolescent, Adult, and Elderly Non-hospitalized Subjects With Influenza A Infection who Are at Risk of Developing Complications
Principal investigator: Dr Cheah Wee Kooi, Hospital Taiping

14. A Double-blind, Randomized, Active-controlled, Parallel-group Study of Paliperidone Palmitate 6-Month Formulation

15. A Phase 3, Randomized, Double-Blind, Placebo-Controlled, 12-Month Study to Evaluate the Efficacy and Safety of MK-7264 in Adult Participants with Chronic Cough (PN030)
Principal investigator: Dr Umadevi A.Muthukumaru, Hospital Taiping

16. A Phase 2b, Randomized, Double-blind, Placebo-controlled Study to Evaluate the Antiviral Activity, Clinical Outcomes, Safety, Tolerability, and Pharmacokinetics of Orally Administered Lumicitabine (JNJ-64041575) Regimens in Hospitalized Adult Subjects Infected With Human Metapneumovirus
Principal investigator: Jeyaseelan P. Nachiappan, Hospital Raja Permaisuri Bainun, Ipoh

17. Incidence Study of Viscerotrophic-Like and Neurotropic-Like Disease in Dengue-Endemic Region
Principal investigator: Jeyaseelan P. Nachiappan, Hospital Raja Permaisuri Bainun, Ipoh