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EDITORIAL

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Assalamualaikum and *salam sejahtera*.

This 3rd volume of BJMS Special Issue for the year 2020 is dedicated to a few selected abstracts which were presented recently in the Sabah Research Day which was held on 4th and 5th September 2019 at Hospital Queen Elizabeth, Kota Kinabalu, Sabah.

The theme of this conference was "Translating Research into Clinical Practice". The theme was appropriate as translational research is the application or translation of knowledge gained from basic and patient-oriented research into clinical practice. This conference also had an exciting line-up of distinguished speakers to bring multifaceted and cutting-edge perspectives of clinical research.

The conference began with very interesting plenary touching on the theme of the conference. This was followed by another plenary of equally interesting topic on "Developing Patient and Public Involvement in Research" and "The Way Forward of Clinical Research in Malaysia". The conference had attracted a total of 10 oral presentations, 19 posters presentation and 47 case report presentations. It had also attracted a lot of local and international attendances.

In this special issue, we have selected 7 abstracts to be published in our Journal. It is our hope that this publication would create more interest among local and international medical and scientific researchers to publish their educated work to be shared by all our readers.

We would like to congratulate our Sabah Clinical Research Team for their success in organizing this Research Conference.

ABSTRACT

Implementation of Ambulance Hotspot Strategy in Reducing Ambulance Response Time

Su Na Chin^{1*}, Phee Kheng Cheah², Muhamad Yaakub Arifin², Hui Shan Kang¹, Zaturrawiah A Omar¹, Fouziah Md Yassin¹, Darmesah Gabda¹

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Keywords: ambulance response time, ambulance hotspot strategy, emergency medical service

NMRR Research ID:
NMRR-16-2487-33681

Introduction: Ambulance response time (ART) has an inseparable relationship with mortality rates and therefore is important to be reduced. However, an unprecedented increase in road traffic congestion has led to longer ART, especially during peak hours. To reduce ART despite congested traffic, a pre-dispatched ambulance is deployed at hotspot locations during peak hours. This study aims to determine if the hotspot strategy is able to reduce ART in an Urban Emergency Medical Services system.

Methods: This is an intervention study at the Emergency and Trauma Department, Sabah Women and Children Hospital (SWACH). Since January 2017, ambulance temporarily stations were set up at two hotspot locations. The pre-dispatched ambulance is deployed at hotspots during peak hours (8 – 10 a.m., 4 – 6 p.m.). Information on ambulance runs departed from mobile locations was collected from January to December 2017. Ambulance runs which departed from the hospital in the year 2016 were taken as the control group. A total of 312 runs were enrolled, only runs during peak hours on weekdays were included. The main outcome measure is ART. Mann-Whitney test was used to compare the response time of ambulance runs before and after the establishment of the hotspot strategy.

Results: Results show a significant decrease in average ART from 17.31 minutes to 12.23 minutes with the hotspot strategy. When separated, both pre-travel delay times and travel times experienced significant reduction of 2.35 minutes and 2.75 minutes respectively.

Meanwhile, travel distances show no significant difference between pre- and post-strategy periods ($p = 0.196$). **Conclusion:** The present study shows that the hotspots strategy has successfully reduced ART at SWACH. However, the “ping” time problem from the

GPS detection could affect the accuracy in calculating the travel distances. Further studies are suggested to overcome the “ping” time to increase the accuracy level. Overall, this study ascertains the potential benefits of ambulance hotspot strategy.

ABSTRACT

Evaluation of the Service Provision of Emergency Obstetric Care in a Tertiary Care Centre: A Clinical Audit

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Keywords: obstetrics emergency,
obstetrics emergency protocol,
obstetrics red alert

NMRR Research ID:
NMRR-18-2067-42538

Introduction: Maternal death is a sensitive health indicator being monitored closely by the Ministry of Health. Obstetric emergency (OE) protocol is introduced to manage OE and to improve maternal outcome. However, there is no national OE guideline available and the OE protocol varies among different institutions. The current audit aims to evaluate the service quality during OE in Duchess of Kent Hospital (DOKH) in accordance with OE protocol DOKH revision-2017. **Methods:** This was a retrospective clinical audit on the quality of service provision during OE from Jan to June 2018 in terms of response time (< 5 minutes), presence of discipline team from anaesthesiology and discipline team from obstetrics and gynaecology (O&G), the appropriateness of triggering obstetrics emergencies and outcome. The audit standard for adherences was set at 95% (set by DOKH quality assurance team). **Results:** Total of 29 cases of OE were reported in 2018. Up to 24 (82.8%) cases were attended by O&G team and 17 (58.6%) cases by anaesthesiology team within a 5-minute response time. Both discipline teams were present on-site during all the OE. A total of 27 (93.1%) cases were triggered in adherence to the OE protocol. Only 27 (93.1%) cases were attended by specialists from O&G and 16 (55.2%) cases by anaesthesiologists respectively. Not all specialists attended the patients on-site but rather depended on their team to report. A total of 12 cases (41%) were admitted to ICU. The case with mortality was 1 (3.45%) with the

diagnosis of subdural and intraparenchymal bleed after 4 days of ICU care. **Conclusion:** The overall adherence to OE protocol was not satisfactory. Educational workshops will be conducted among the two disciplines to

improve the critical response time to OE. A formal meeting will be conducted to discuss the possible solution to the mandatory review by the specialists for every OE as a strategy to improve the quality of services.

ABSTRACT

Descriptive Study on Reported Medication Error among Nurses in Queen Elizabeth II Hospital, Kota Kinabalu, Sabah

Jenet Guan Chin*, Mary Tan, Stephanie Yvonesky Francis, Siti Rahmah Idris, Mary Padtong, Kotulin Lotupas, Maglen Ginsos, Norizzati Cheng, Phyllis Bridget Philip

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Keywords: medication error, safety practice, medication administration

Introduction: Medication error is a global issue. Despite, the various impacts on health and non-health, continuous monitoring, assessment and intervention are required to reduce the number of medication error. Precise information on the root cause of medication error in Hospital Queen Elizabeth II, Kota Kinabalu will aid in the preventative measures to reduce medication error among nurses. Thus, this study aims to describe the incident of medication errors among nurses.

Methods: A retrospective cross-sectional study was conducted to review medication error incidents reports between 2015 to 2018. Data were analysed according to the type of error, day and shift of medication error occurred, causes and month of services. The collected data were analysed using descriptive statistics in SPSS 22. **Results:** A total of 54 reports was reviewed. The mean (SD) month of services among nurses involved in the medication error is 41.3 (24.9) months. The most common type of medication error is the wrong frequency with 23 (42.6%) cases. Majority cases of medication error occurred in weekdays with 41 (75.9%) cases and 24 (44.4%) cases happen during the night shift. Poor communication among healthcare workers was the most commonly reported human error with 42 (77.8%) reports, followed by 36 (66.7%) reports of failure to comply standard of procedure in medication administration. **Conclusion:** Though this study found team factor is the recurrent causes, poorly designed work systems and

individual factor should be imperious as well. A qualitative study is required to understand more on nurse behaviour practice towards

medication administration. The high authority plays an important role to monitor this matter to improve medication safety practice.

ABSTRACT

Evaluation of Pharmaceutical Intervention at Hepatitis C Medication Therapy Adherence Clinic in North Borneo, Malaysia (Epic MTAC)

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Keywords: pharmacist, hepatitis C, pharmaceutical intervention, Medication Therapy Adherence Clinic (MTAC), Sustained Virological Response (SVR)

NMRR Research ID:
NMRR-19-384-46189

Introduction: Hepatitis C virus (HCV) is a worrying public health issue worldwide. The introduction of direct-acting antiviral agents (DAAs) brings revolution to HCV treatment. Pharmacists' role in Malaysia is significant since the implementation of Medication Therapy Adherence Clinic (MTAC). This study aims to determine the sustained virological response (SVR12) for HCV patients treated with Sofosbuvir and Daclatasvir and/or Ribavirin. Besides, it evaluates adherence rate, types of pharmaceutical intervention and physicians' acceptance rate. **Methods:** A retrospective cohort study on hepatitis C patients who received DAAs-based treatment in 2018 at North Borneo government facilities. **Results:** Hepatitis C MTAC recruited 53 out of 56 patients. The overall SVR12 was 91%. SVR12 for MTAC patients was better than non-MTAC group but the differences were statistically not significant (92.45% vs 66.67%; $p > 0.05$). The overall adherence rate towards treatment was 98%. Although MTAC patients showed higher adherence rate, there was no significant difference among the two groups (99% vs 89%; $p = 0.639$). During 279 MTAC visits, a total of 43 drug-drug interactions (DDIs) were identified. The majority (98%) rated as potential DDIs that were intervened by either close monitoring (89%), dosage adjustment (7%), medication replacement (2%) or medication cessation (2%) with 100% acceptance rate. Among the 164 medications reviewed, Amlodipine and Efavirenz were the most commonly involved drugs. Adverse drug reactions (ADRs) were

detected in approximately one-third (30%) of the MTAC patients. Three most frequently reported ADRs were fatigue (14%), dizziness (14%) and headache (7%). **Conclusion:** The contrariety of sample size between MTAC and the non-MTAC group is the limitation of this

study, therefore unable to accurately reflect the significance of MTAC. However, the role of MTAC pharmacists cannot be denied because they are not only serving as a dispenser but actively involved in disease management by ensuring adherence and advocate pharmacovigilance.

ABSTRACT

Colour Vision Deficiency among Failed Candidates for Driving License in Sabah

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Keywords: visual acuity (VA), colour vision deficiency (CVD), driving license

NMRR Research ID:
NMRR-19-1785-48811

Introduction: Good visual acuity (VA) coupled with the ability to discriminate colours and having a sufficiently wide field of view are factors needed for safe driving. This study aimed to determine the types of colour vision deficiency (CVD) among failed candidates for driving license and to identify the accuracy of the Road Transport Department (RTD) screening tests in detecting those who have poor VA and CVD in Sabah. **Methods:** A cross-sectional study on the patient's records of all failed candidates for the driving license that were referred for further assessment by an optometrist. This study was conducted at eight hospitals in Sabah from March to June 2019. Basic demographic data, distance VA, Ishihara test and Farnsworth-Munsell D15 test were collected. Descriptive statistics were used to summarise the results. All subjects referred with best-corrected visual acuity (BCVA) 0.3 LogMAR were included. **Results:** A total of 73 subjects (79% males and 21% females), age range from 16 to 61 years (mean 29 ± 13 years) were recruited. Bajau, Dusun, Bugis and Kadazan were the major ethnic among the subjects. Mean VA on attendance was 0.1 ± 0.19 LogMAR, while BCVA was 0.0 ± 0.07 LogMAR. Thirty-six subjects (49%) were found to have CVD. The prevalence of CVD was more in males than females (45% vs 4%). Most of the CVD were deutans (25%) followed by protans (22%), no findings of tritan CVD. In this study, 37 subjects (51%) passed the Ishihara test. These were the false-positive error of the RTD screening tests. **Conclusions:**

Hereditary red-green perceptive disorder was the commonest CVD in Sabah. The severity of CVD was not been evaluated in this study because it is best evaluated using Hardy Rand and Rittler (HRR) test. The false-positive

results might be because of technical error or unfamiliar of using computerized colour vision test, especially among elderly candidates. Visual field screening might be considered in the future to ensure safe driving.

ABSTRACT

Prevalence of Retinopathy of Prematurity and Refractive Status in Premature Infants in Sabah Women and Children Hospital (SWACH)

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Keywords: premature, retinopathy
of prematurity, refractive status

Introduction: Myopia has been regarded as an important cause of blindness and visual impairment by WHO. Due to higher incidence of myopia in a preterm baby with ROP, early detection and visual rehabilitation need to commence as soon as possible to give the children better quality of life and prevent blindness in this population. To determine the prevalence of ROP and refractive status in premature infants in Sabah Women and Children Hospital, Kota Kinabalu in 2018. To establish the relationship between low BW and GA with the presentation of ROP.

Methods: A retrospective cohort study of clinical records of all premature infants (BW < 1.5 kg or GA < 32 weeks) in SWACH. All demographic and clinical data were obtained.

Results: A total of 265 premature infants were screened for ROP, 117 female and 148 male. Bumiputera Sabah and Sarawak (64.5%) were the highest, followed by others (24.5%), Malay (5.7%) and Chinese (5.3%). The mean GA and BW for all screened infants were 30.33 (2.07) weeks and 1.33 ± 0.31 kg. Mean spherical equivalent (MSE) at the age of 2 months old was +2.95 ± 1.46. Out of screened amount, 20 infants (7.5%) detected had ROP, 9 (45.0%) in stage 1, 8 (40%) in stage 2 and 3 (15.0%) who underwent laser therapy were in stage 3. All ROP detected infants were born within 28 – 32 weeks and weighted within 0.74 – 1.4 kg. Non-ROP infants MSE were +2.93 ± 1.53 while ROP infants MSE were +2.58 ± 1.25. Eye with laser-treated ROP has lower MSE: +2.42 ± 0.52, comparison with non-laser therapy

MSE: $+2.62 \pm 1.37$. In this study, there is no significant difference in GA ($p = 0.280$), BW ($p = 0.643$) and refractive error ($p = 0.910$) among ROP and non-ROP babies. **Conclusion:** Although the prevalence of ROP in this study

was low (7.5%) and no significant difference of BW/ GA/ refractive status with a presentation of ROP. However, screening and monitoring of these ROP babies need to be continued due to the devastating sequelae of ROP.

ABSTRACT

Cost-Effectiveness of Oral Cancer Screening Programmes: A Systematic Review of Design and Outcomes

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Keywords: cost-effectiveness, oral cancer, screening, modelling

NMRR Research ID:
NMRR-18-3073-44823

Introduction: Oral cancer screening programmes have been promoted to be an integral part of national-control strategies. However, such programmes are often not endorsed due to lack of evidence of its cost-effectiveness. This study aims to systematically review studies on the cost-effectiveness of oral cancer screening programmes. **Methods:** A systematic search for studies on economic evaluations of oral cancer screening was performed on four major databases – Medline, CINAHL, Cochrane and PubMed. Quality assessment of studies was conducted using CHEERS and Philips Checklist by two reviewers. Data extraction was carried out based on screening characteristics, outcomes and adopted study approaches and later summarized in evidence tables. **Results:** Out of 362 studies identified, 28 were evaluated for eligibility. Final six studies evaluated varied in terms of the design of their economic evaluations - modelling approaches ($n = 4$), randomised controlled trial ($n = 1$) and retrospective observational study ($n = 1$). Studies explored the effect of screening on people above 35 to 40 years. The population-based screening was the most commonly evaluated ($n = 5$) followed by opportunistic ($n = 2$). Generally, all studies reported screening initiatives were cost-effective compared to non-screening. However, the decision on cost-effectiveness remains ambiguous due to differences based on setting, payer-system, costing approach and parameters modelled. The observational and controlled trial showed

good quality of evidence in terms of process and costs of programme implementation. However, modelling approaches were more favourable in oral cancer as the malignant transformation rate varied widely (0.2 – 20.2%) and was robust for evaluation over a longer time horizon (25 to 60 years). **Conclusion:** There is still a big void in evidence for the

cost-effectiveness of oral cancer screening, which prevents the recommendation and institutionalisation of programmes. With a huge population scope, high implementation cost and numerous variabilities in conduct and values, a modelling approach could be the solution to fill the knowledge gaps before trials.

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The length of the original articles, excluding References, should not normally exceed 2700 words. Brief and case reports are inevitably shorter. Manuscript should contain the following sections in the order listed.

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It should provide the background of the study (i.e., the nature of the problem and its significance). State the specific purpose or research objective, or hypothesis tested, the study or observation; the research objective is often more sharply focused when stated as a question. Both the main and secondary objectives should be made clear, and any pre-specified subgroup analyses should be described. Only exact pertinent references should be provided and do not include data or conclusions from the work being reported.

MATERIALS AND METHODS

This section should include only information that was available at the time the plan or protocol for the study was written; all information obtained during the conduct of the study belongs in the Results section. It should include information on:

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observational or experimental participants (patients or laboratory animals, including controls) clearly, including eligibility and exclusion criteria and a description of variables such as age and sex.

- Identify the methods and procedures in sufficient detail to allow other workers to reproduce the results. Give references and brief descriptions for methods that have been published but are not well known; describe new or substantially modified methods, give reasons for using them, and evaluate their limitations. Identify precisely all drugs and chemicals used, including generic name(s), dose(s), and route(s) of administration.
- Describe statistical methods with enough detail to enable a knowledgeable reader with access to the original data to verify the reported results. When possible, quantify findings and present them with appropriate indicators of measurement error or uncertainty (such as confidence intervals). Avoid relying solely on statistical hypothesis testing, such as the use of p values, which fails to convey important information about effect size. Define statistical terms, abbreviations, and most symbols. Specify the computer software used.

RESULTS

Describe your results in words, with reference to tables or graphs or figures when necessary. Present your results in logical sequence, giving the main or most important findings first. Do not repeat in the text all the data in the tables or illustrations; emphasize or summarize only important observations. When data are summarized in the Result section, give numeric results not only as derivatives (e.g. percentages) but also as the absolute numbers from which the derivatives were calculated, and specify the statistical methods used to analyze them. Restrict tables and figures to those needed to explain the argument of the paper and to assess its support. Use graphs as an alternative to tables with many entries; do not duplicate data in graphs and tables.

DISCUSSION

Emphasize the new and important aspects of the study and the conclusions that follow from them. Do not repeat in detail data or any material given in the Introduction or the Results section. For experimental studies it is useful to begin the discussion by summarizing briefly the main findings, then explore possible mechanisms or explanations for these findings, compare and contrast the results with other relevant studies, state the limitations of the study, and explore the implications of the findings for future research and for clinical practice.

ACKNOWLEDGEMENTS

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Serdaroglu E, Mir S, Kabasakal C. (2002). Urine protein-osmolality ratio for quantification of proteinuria in children. *Nephrol Dialysis Transpl* 17: S114 (suppl 1).

Matos V, Drukker A, Guignard JP. (1999). Spot urine samples for evaluating solute excretion in the first week of life. *Arch Dis Fetal Neonatal Ed* 80: F240 – 2.

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Figures

Should be provided only if they improve the article. For X-ray films, scans, and other diagnostic images, as well as pictures of pathology specimens or photomicrographs, send sharp, glossy, black-and-white or colour photographic prints, usually 127 .90 mm. On back of each figure, list the figure number, name of the first author, title of the article, and an arrow indicating the right orientation of the figure. Colour photographs, if found to improve the article, would be published at no extra charge. Letters, numbers, and symbols on Figures should therefore be clear and even throughout, and of sufficient size that when reduced for publication each item will still be legible. Figures should be made as self-explanatory as possible. Type or print out legends for illustrations on a separate page, with Arabic numerals corresponding to the illustrations. When symbols, arrows, numbers, or letters are used to identify parts of the illustrations, identify and explain each one clearly in the legend. Explain the internal scale and identify the method of staining in photomicrographs. Markers should be clear with high-contrast with appropriate explanation in the corresponding legend. Be sure that each figure is cited in the text.

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Use only standard abbreviations; the use of non-standard abbreviations can be extremely confusing to readers. Avoid abbreviations in the title. The full term for which an abbreviation stands should precede its first use in the text unless it is a standard unit of measurement.

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