



The Galle Medical Journal

Journal of the Galle Medical Association

September 2024 Volume 29 Suppl 1 ISSN 1391-7072

ABSTRACTS

Oral and Poster Presentations

at the

83rd Annual Academic Sessions

of the

GALLE MEDICAL ASSOCIATION

26th & 27th September 2024

at the

Faculty of Medicine

University of Ruhuna

Galle, Sri Lanka



The Galle Medical Journal

Journal of the Galle Medical Association

September 2024 Volume 29 Suppl 1 ISSN 1391-7072

CONTENTS

I. Message from the editors

ORAL PRESENTATIONS

01. **Predictive Validity of Renal Ultrasound in Vesicoureteral Reflux of Infants and Toddlers with Urinary Tract Infection: A Hospital-based Study**
Jayantha UK, Muduwan DAY, Darshana ILAN
02. **Knowledge, Attitudes, and Practices Regarding Salt Consumption in a Group of Community-dwelling Individuals in Galle**
Wickramatillake CM, Madhushika KTS, Wijesinghe CJ, Mohideen MR
03. **The Effectiveness of Large Neutral Amino Acid Therapy in Managing Phenylketonuria: A Systematic Review**
Hannibal GD, Kankanarachchi I, Vithanage NVNN, Mendis SA, Sinhabahu TK, Liyanage PLGC
04. **A Comparison of AI-generated Answers with the Examiner-set Standard Answers using Three AI Tools in Different Formats of Questions in Anatomy**
Rodrigo PSS, Bandara KMNA, Kumara PBASMP, Darshana ILAN, Rodrigo PM, Waidyaratne EI
05. **Accidents and Injuries Supported on Extracorporeal Membrane Oxygenation (ECMO): A Retrospective Study from the National ECMO Centre of Sri Lanka**
Harischandra DVT, Kumara PBASMP, Withanaarachchi K, Jayaweera JMRG, Firmin R
06. **Spatio-temporal Distribution of Leptospirosis in Galle District**
Gunasekara CA, Sinhabahu TK, Kumarasinghe SD, Pathirana R, Ganadeepan S, Chandrasiri PAA, Dissanayake A, Fonseka CL
07. **Physician Burnout: A Challenge Amidst a Public Health Crisis**
Mendis SA, De Silva AT
08. **Association of *Staphylococcus aureus* Bacteriuria with *Staphylococcus aureus* Bacteraemia as an Indicator of the Prognosis of Infection**
Madumali DI, Piyasiri DLB
09. **Effectiveness of an Artificial Intelligence Based Tool in Answering Pharmacology Questions Set for Medical Undergraduates**
Liyanage PLGC, Hannibal GD, Sinhabahu TK, Mendis SA, Vithanage NVNN, Wanigatunge CA

10. **Adherence to Prescribing and Patient Care Indicators on Prescribing and Dispensing Medications to Patients Attending Medical Clinics in a Tertiary Care Hospital in Southern Sri Lanka**
Mendis SA, Hannibal GD, Vithanage NVNN, Sinhabahu TK, Sevewandi RAW, Liyanage PLGC
11. **Descriptive Study on Epidemiology, Demographic Variation and Occupational Exposure among Culture Positive Melioidosis Patients Treated at a Tertiary Care Hospital in Southern Sri Lanka**
Piyasiri DLB, Jayasekera PK, Fonseka CL, Corea EM
12. **Validation of Caregiver Difficulties Scale for Assessing Caregiver Burden in Childhood Intellectual Disabilities**
Wijesinghe CJ, Jagoda MA, Gamage SA, De Silva PV, Hewage CG

POSTER PRESENTATIONS

01. **Prevalence of Animal Rabies in Southern Province, Sri Lanka: A Descriptive Cross-sectional Study**
Amarasiri AMSS, Ramanayake RMTM, Peiris HH, Samaraweera B, Udara GKJN
02. **Artifacts in H&E-stained Sections of Oral Biopsies: A Descriptive Study Done in National Hospital Galle**
Yasanthika KS, Ramanayake RMTM, Peiris HH, Perera A
03. **Anatomical Variation of Brachial Artery Branching Pattern and Its Relation to the Main Nerves in the Upper Limb: A Cadaveric Study**
Kumara PBASMP, Rodrigo PSS, Bandara KMNA, Samarawickrama MB, Rodrigo M, Eranga URR
04. **Birth Defects among Babies Admitted to Neonatal Intensive Care Unit, Teaching Hospital Karapitiya**
Sandaruwan WAA, Withanaarachchi K, Lakmali VGD, Malinda WAD, Liyanage UB, Gunawardene PVAI
05. **Neuro-development Care among Premature and Critically-ill Neonates Admitted to Neonatal Intensive Care unit of the German Sri Lanka Friendship Hospital for Women**
Sandaruwan WAA, Somarathne KM, Dehigama D, Lakmali VGD, Hapuarachchi G
06. **Effectiveness of Dydrogesterone Supplementation in the Management of Preterm Labour: A Systematic Review**
Vithanage NVNN, Hannibal GD, Sinhabahu TK, Mendis SA, Mampitiya I, Liyanage PLGC
07. **Effectiveness of Oleogel-S10 in Wound Healing: A Systematic Review**
Vithanage NVNN, Hannibal GD, Sinhabahu TK, Mendis SA, Liyanage PLGC, Liyanage PLAN
08. **Predictive Validity of Full Blood Count in Detecting Influenza among Clinically Suspected Children: A Retrospective Study**
Darshana ILAN, Ekanayake N, de Silva MHAD

- 09. The Effectiveness of ChatGPT in Answering Paediatric Questions Made for Medical Undergraduates**
Kankanararachchi I, Hannibal GD, Sinhabahu TK, Liyanage PLGC
- 10. Severity of Adverse Drug Reactions Reported among Inward Patients: A Surveillance Initiative at National Hospital Galle**
Sinhabahu TK, Vithanage NVNN, Hannibal GD, Mendis SA, Liyanage PLGC
- 11. Survey to Assess the Adequacy of Information in Transfer Forms at a Paediatric Ward in Teaching Hospital Karapitiya**
Kariyapperuma KADSR, Liyanage UB, Palliyaguruge JS, Liyanage A, Warnasuriya TDN
- 12. Analysis of Teenage Pregnancies Reported in Hikkaduwa MOH Area: Need of Strengthening the Delivery of Family Planning**
Hatharasinghe R, Chandrasiri A, Chathurangika K, Ranaweera P
- 13. Construction Sites Require More Attention: Analysis of Entomological Indices Reported in Special Dengue Prevention Programme**
Chathurika S, Chandrasiri A, Hettiarachchi E, Mohotti I, Ranaweera P, Mudalige S, Dissanayake D
- 14. Gathering of Public Health Staff for Meetings, Reviews and Training: Does It Restrict Their Available Time for Service Delivery?**
Somarathna KM, Chandrasiri PAA, Senevirathna RRWL
- 15. Performance Evaluation of Glucometers in a Tertiary Care Hospital in Sri Lanka**
Senevirathna DCL, Yapa HDN, Ubeysekara PM, Jayasinghe RI, Dissanayake M



The Galle Medical Journal

Journal of the Galle Medical Association

Volume 29: Suppl 1, September 2024

President; Galle Medical Association

Wimalasiri Uluwattage

Editors; Galle Medical Association

Eisha Waidyarathne

Gayani Liyanage

Editors in Chief; Galle Medical Journal

Satish K Goonesinghe

Eisha I Waidyarathne

Editorial Assistant

S Sureka Samanmalie

© The Galle Medical Journal, 2024 September

The Galle Medical Association

GMA Office

National Hospital Galle

Galle

SRI LANKA

ISSN 1391-7072

Tel/Fax : +94 91 2232560

E-mail : gmj@gma.lk

gmjgalle@gmail.com

office@gma.lk / gmathk@gmail.com

Website : www.gma.lk

Message from the Editors

As joint editors of the Galle Medical Association, we are happy to forward this message to this year's supplement to The Galle Medical Journal (GMJ) published online in concordance 83rd Annual Academic Sessions of the Galle Medical Association (GMA) scheduled to be held from 25th to 27th of September 2024, at the T W Wikramanayake Auditorium, Faculty of Medicine, University of Ruhuna.

We take this opportunity to acknowledge the contribution of authors who have submitted the products of their tireless research work to GMA this year. Your dedication and efforts in providing valuable scientific content for the free paper sessions certainly enhance the overall quality and appeal of the sessions. The abstracts that will be presented at the 83rd Annual Academic Sessions of GMA cover a wide array of topics from many disciplines ranging from basic to applied research, which would undoubtedly stimulate the interest and enhance the understanding among the wider scientific community. There are several free papers discussing the involvement of AI in medical education; a hot topic of the season.

As Co-editors we strived to ensure a fair, unbiased and judicious peer review for the abstracts submitted to the academic sessions of GMA. Ethical values such as honesty, excellence in research practice, confidentiality, and respect are crucial in ensuring the integrity and credibility of the research process.

Authors are expected to adhere to these ethical principles to uphold the trust and reliability of their work.

We congratulate and thank all authors and researchers once again for selecting GMA Annual Academic Sessions as the forum to disseminate their scientific knowledge.

We wish you good luck in your presentations at the forthcoming sessions.

Eisha I Waidyarathne

Gayani Liyanage

Co-Editors / GMA

Oral Presentation - 01

Predictive Validity of Renal Ultrasound in Vesicoureteral Reflux of Infants and Toddlers with Urinary Tract Infection: A Hospital-based Study

Jayantha UK^{1,2}, Muduwan DAY², Darshana ILAN³

¹Department of Paediatrics, ³Department of Community Medicine, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.

²University Paediatric Unit, National Hospital Galle, Sri Lanka.

Introduction

Vesicoureteral Reflux (VUR) is a common structural abnormality leading to renal parenchymal disease. Micturating cysto-urethrogram (MCUG) is the gold standard investigation in the diagnosis of VUR. Present guidelines on Urinary Tract Infection (UTI) do not recommend routine MCUG unless there is any ultrasound abnormality. However, the contribution by renal ultrasound in diagnosing VUR is controversial. This study was conducted to assess the predictive validity of renal ultrasound in diagnosing VUR.

Methods

A retrospective cross-sectional study was conducted among 160 children below 36 months of age with UTI presenting to the University Paediatric unit clinic, National Hospital, Galle from May 2016 to April 2024. Eight patients were lost to follow up after the initial renal ultrasound. Data were extracted from the database maintained at the clinic. Predictive measures were calculated for renal ultrasound in diagnosing VUR based on criterion validity.

Results

Median (IQR) age of the sample was 9.0 (5.0 to 17.3) months while 55.3% were females. VUR was found in 40.1% (n=61) children; 30 in bilateral, 24 in left and 7 in right respectively based on MCUG findings. High grade VUR was detected in 50.8%. Positive ultrasound (n=11) was found in 7/31 children with high grade VUR and 4/30 in low grade VUR. Renal ultrasound in diagnosing VUR had very low sensitivity (18.0%) but had 100% specificity and positive predictive value. Negative predictive value was 64.5%. Renal scarring found in 4/31 of high grade VUR and 1/30 in low grade VUR.

Conclusions

VUR is underdiagnosed by renal ultrasound. Hence, the necessity of doing MCUG in UTI specially in early childhood should not be disregarded.

Oral Presentation - 02**Knowledge, Attitudes, and Practices Regarding Salt Consumption in a Group of Community-dwelling Individuals in Galle****Wickramatillake CM¹, Madhushika KTS¹, Wijesinghe CJ², Mohideen MR³***¹Department of Biochemistry, ²Department of Community Medicine, ³Department of Medicine, Faculty of Medicine, University of Ruhuna, Sri Lanka.***Introduction**

Despite considerable efforts to increase public awareness regarding high salt intake and its health consequences, dietary salt consumption is high among Sri Lankans compared to WHO-recommended salt intake (5 g/day). This study aimed to investigate the knowledge, attitudes, and practices on salt consumption among adults in a semi-urban setting in Sri Lanka.

Methods

A cross-sectional study was conducted among 77 community-dwelling adults (53 females) aged 22-67 years, residing in Akmeemana area. Data were collected using a pre-tested questionnaire. Descriptive statistics were used in data analysis.

Results

Among the participants, 93.3% knew the health consequences of high salt intake and 40.0% knew the recommended salt intake. A majority recognized the association between salt intake and high blood pressure (91.2%), and increased thirst (97.1%). In comparison, only a minority recognized its relationship with body water retention (24.1%), increased weight (28.3%), and stimulation of eating (37.7%).

Most of them were unaware of high salt-containing food except dried fish (85.5%), jardi (87.3%), and soup cubes (80.0%). However, their knowledge about food items with low salt was satisfactory (rice - 92.4%, eggs - 93.8%, fresh meat - 82.1%, fish - 85.1%, fruits - 94.2%, and vegetables - 95.5%). The majority (76.0%) believed that they consume the right amount of salt and showed positive attitudes in selected areas to reduce salt consumption (>50%). The most preferred channels for health information were healthcare professionals (100%) and television (95%). Most did not add salt at the table (76.8%), though the majority added salt during cooking (91.8%) including rice (68%). Most were not used to adding herbs, lemon/lime, and spices instead of salt to improve the taste of food.

Conclusions

There are gaps in the knowledge and practices regarding salt consumption among the public, despite positive attitudes. Targeted educational interventions are recommended for behaviour change. Healthcare professionals and television are the optimal communication channels.

Oral Presentation - 03

The Effectiveness of Large Neutral Amino Acid Therapy in Managing Phenylketonuria: A Systematic Review

Hannibal GD¹, Kankanararachchi I², Vithanage NVNN¹, Mendis SA¹, Sinhabahu TK¹, Liyanage PLGC¹

¹Department of Pharmacology, ²Department of Paediatrics, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.

Introduction

Phenylketonuria (PKU) is an autosomal recessive disorder causing severe impact on brain development and function leading to neurological and cognitive issues in both adults and children. Large neutral amino acids (LNAA) is considered as a therapeutic option as they compete with phenylalanine for transport across the blood-brain barrier, potentially reducing its neurotoxic effects. This review aimed to determine the efficacy of LNAA therapy alongside or instead of a phenylalanine-restricted diet in managing PKU.

Methods

A review was conducted adhering to Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines. Medline and Cochrane databases were searched using predetermined keywords. Of the 78 studies recruited ten studies were included based on the selection criteria. Articles in English language and both adult and paediatric patients with PKU were included excluding reviews, books, documents and animal studies. All selected studies, assessed for quality by Jadad Score, were of good quality.

Results

Of the 10 studies reviewed, six demonstrated that treatment with LNAA significantly reduced plasma phenylalanine (Phe) levels. In patients on a restricted diet alone, LNAA showed greater reductions in Phe and increase in serum and urine melatonin compared to those receiving medical formulas in addition to diet restriction ($p < 0.05$). Conversely, four studies showed no significant change in plasma Phe levels ($p > 0.05$) with LNAA therapy but reported a significant increase in plasma tyrosine levels ($p = 0.03$). Neuropsychological assessments from three studies indicated LNAA therapy significantly improved executive functions like verbal generativity and flexibility ($p = 0.018$), though hand dexterity was not significant ($p > 0.05$). Attention was better on medical formula with or without LNAA therapy.

Conclusions

LNAA therapy effectively reduces plasma Phe levels and increases essential amino acids, particularly in patients on a restricted diet alone compared to those receiving medical formulas. Further, LNAA therapy significantly improves executive functions.

Oral Presentation - 04**A Comparison of AI-generated Answers with the Examiner-set Standard Answers using Three AI Tools in Different Formats of Questions in Anatomy**

Rodrigo PSS¹, Bandara KMNA¹, Kumara PBASMP¹, Darshana ILAN², Rodrigo PM¹, Waidyarathne EI¹

¹Department of Anatomy, ²Department of Community Medicine, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.

Introduction

AI tools have become handy among medical undergraduates as learning aids. The aim of the study was to compare the answers generated by three such tools with the standard answers in anatomy questions of different formats.

Methods

ChatGPT (version 3.5), Google Bard (Gemini), and Bing were used to generate answers for 30 True/False (T/F), 10 Single Best Response (SBR), 35 Wh-type, and 20 applied anatomy questions. All AI-generated answers were evaluated against the examiner-set standard answers by the panel of investigators in the setting of conference marking. For T/F and SBR, the percentages of correct responses were compared. For Wh-type and applied anatomy, responses were graded using a grading system developed by the investigators. Data was analyzed using Minitab statistical software version 18, employing the Kruskal-Wallis H test to determine statistically significant differences between the AI answers and the standard answers at 0.05 significance level. The Dunn test was used for median separation to identify specific group differences.

Results

The percentage of marks obtained for answers generated by ChatGPT, Gemini & Bing respectively for different types of questions were; T/F 50%, 76.7% and 46.7%; SBR 70%, 50%, and 70%; Wh-type 64.3%, 84.3% and 67.9%; applied anatomy 82.5%, 65% and 60%. The overall marks obtained for answers by ChatGPT, Gemini & Bing were 66.7%, 69% and 61.1% respectively.

Analysis revealed statistically significant low marks for the answers generated by all three AI tools collectively, compared to the standard answer in all four components of the assessment. (MCQ; $H = 36.623$, $p < 0.001$, SBR; $H = 12.805$, $p = 0.005$, Wh-type; $H = 38.898$, $p < 0.001$, anatomical basis; $H = 9.134$, $p = 0.028$). None of the AI tools was identified as a better tool from pairwise comparison with the standard answer.

Conclusions

AI tools vary in their accuracy in answering different formats of questions in anatomy. Cautious usage is recommended.

Oral Presentation - 05

Accidents and Injuries Supported on Extracorporeal Membrane Oxygenation (ECMO): A Retrospective Study from the National ECMO Centre of Sri Lanka

Harischandra DVT¹, Kumara PBASMP², Withanaarachchi K¹, Jayaweera JMRG³, Firmin R⁴

¹National Hospital Galle, Sri Lanka.

²Department of Anatomy, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.

³Colombo North Teaching Hospital, Ragama, Sri Lanka,

⁴University Hospitals of Leicester, United Kingdom.

Introduction

Extracorporeal Membrane Oxygenation (ECMO), a temporary form of cardio-pulmonary support, can be useful in certain accidents and injuries. The overall survival rates reported internationally was 54%. Our objective was to study the types of accidents/injuries supported on ECMO in Sri Lanka and their outcome.

Methods

A retrospective descriptive study was done using the database of the National ECMO Centre (NEC) of Sri Lanka from October 2014 to October 2023. All patients who were referred due to accidents/injuries within the country were included. There were no exclusions.

Results

Of the 200 patients referred for ECMO over nine years, 18 referrals were for accidents/ injuries. Only six of these underwent ECMO. Their mean age was 20 and the age range was 11 - 30 years. There were four males. The indications for ECMO were; chemical pneumonitis (n=02), drowning (n=02) poly trauma following a road traffic accident (RTA) (n=01) and foreign body inhalation (n=01).

They underwent 506 cumulative hours (average 84 hours per patient) of ECMO support on either veno-venous (n=05) or veno-arterial (n=01) ECMO. The two morbidities were clots in the circuit (n=01) and upper gastro-intestinal bleeding (n=01). There were two mortalities: the RTA who succumbed due to concomitant cerebral and brainstem injury and the chemical pneumonitis from petrol inhalation who succumbed to sepsis. Four (66.6%) patients recovered completely which includes the following; after chlorine inhalation (n=01), foreign body inhalation (n=01), salt water drowning (n=01) and fresh water drowning (n=01) and they remain well to date.

Conclusions

Accidents and injuries appear to be a good indication for ECMO as their survival is highly favorable as compared with overall international ECMO survival rates.

Oral Presentation - 06**Spatio-temporal Distribution of Leptospirosis in Galle District**

Gunasekara CA¹, Sinhabahu TK², Kumarasinghe SD¹, Pathirana R¹, Ganadeepan S³, Chandrasiri A⁴, Dissanayake A¹, Fonseka CL¹

¹Department of Medicine, ²Department of Pharmacology, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.

³Department of Limnology and Water Technology, University of Ruhuna, Galle, Sri Lanka.

⁴Department of Public Health, Office of Regional Director of Health Services, Galle, Sri Lanka.

Introduction

Leptospirosis is a tropical infection that poses a significant public health concern in the Galle district in Sri Lanka, leading to increased morbidity and mortality. Assessment of spatio-temporal distribution of leptospirosis will assist to plan out control measures in areas of high incidence.

Methods

We analyzed spatio-temporal characteristics of patients suspected to have leptospirosis from March to July in 2024 in four hospitals in the Galle district: Teaching Hospital Karapitiya, Base Hospital Udugama, Base Hospital Balapitiya, and Base Hospital Elpitiya. Epidemiological details and locations were collected and mapped using geographic information system.

Results

A total of 197 cases were recorded from hospital records over 4 months and 86% were males. Mean age was 44±17.8 years. Main occupations were paddy farmers, tea pluckers, labourers and construction workers. Teaching Hospital Karapitiya had 63.5% cases and 18.3%, 9.1% and 9.1% cases were reported in Base Hospitals Udugama, Balapitiya and Elpitiya respectively.

Patients who had no organ damage, one organ damage and more than one organ damage were grouped as mild, moderate, and severe respectively. Percentages of mild, moderate, severe cases were 53.3%, 27.9% and 18.8%, respectively. Temporally, cases peaked during May 3 to May 16 where 37 cases were reported. Immediately following the flooding in the first week of June the number of cases were increased to 24. Spatially, the highest density of cases was observed in the Galle Four Gravets area, with secondary hotspots in Neluwa, Thawalama, and Karandeniya. Areas like Imaduwa and Akmeemana also showed moderate case density.

Conclusions

Leptospirosis cases in Galle district showed both temporal and spatial clustering, with a notable increase following the June first-week flood. This temporal association suggests a potential link between flooding and disease incidence. The identification of high-risk areas and their correlation with environmental events can guide targeted interventions and resource allocation for leptospirosis control in the region.

Oral Presentation - 07

Physician Burnout: A Challenge Amidst a Public Health Crisis**Mendis SA¹, De Silva AT²**¹*Department of Pharmacology, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.*²*Department of Human Resource Management, Faculty of Management and Finance, University of Colombo, Sri Lanka.***Introduction**

COVID-19 pandemic was a global public health emergency. Medical professionals involved in managing patients with COVID-19 were more prone to burnout. Physician burnout has negative impact on doctors' wellbeing as well as patient care. This study was conducted to estimate the prevalence of physician burnout among doctors managing COVID-19 patients in Sri Lanka during the pandemic and to determine the associated factors of burnout.

Methods

A cross-sectional observational study was conducted among 310 medical professionals involved in managing COVID-19 patients. Self-administered questionnaire comprised of Copenhagen Burnout Inventory and the investigator developed questions including potential associated factors was disseminated through emails and social networks. Prevalence of burnout was calculated, and the associations were analysed using multivariate logistic regression analysis.

Results

The response rate was 68.9%. The prevalence of total, personal, work-related and patient-related burnout (score >50) were 37.1%, 50.3%, 50.0% and 31.3% respectively (moderate burnout score 50 - 74, high burnout score 75 - 99). Burnout was positively associated with female gender (OR = 1.65, $p < 0.05$), age (OR = 1.31, $p < 0.05$), married status (OR = 1.72, $p < 0.05$), number of children (OR = 1.43 $p < 0.05$), number of working hours per day (OR = 1.01, $p < 0.01$) and number of working days per month (OR = 1.03 $p < 0.01$). It was negatively associated with years of experience in profession (OR = 0.74, $p < 0.01$) and living with family (OR = 0.85, $p < 0.01$). Presence of co-morbidities showed negative association (OR = 0.58, $p < 0.01$) with burnout.

Conclusions & recommendations

Many doctors involved in managing COVID-19 patients had moderate to high burnout. Prevalence of personal and work-related burnout are higher than patient-related burnout. Doctors with premorbid conditions showed low burnout, which could be due to less involvement in patient management. Identifying the predictors of burnout is beneficial in implementation of preventive measures and effective interventions to reduce and prevent burnout among doctors during a health crisis.

Oral Presentation - 08**Association of *Staphylococcus aureus* Bacteriuria with *Staphylococcus aureus* Bacteraemia as an Indicator of the Prognosis of Infection****Madumali DL, Piyasiri DLB***Department of Microbiology, National Hospital Galle, Sri Lanka.***Introduction**

Staphylococcus aureus bloodstream infection (SABI) often results in significant morbidity and mortality, and the early identification of high-risk patients remains challenging. *Staphylococcus aureus* bacteriuria (SABU) is a rare occurrence which can lead to SABI and vice versa. Therefore, this study aimed to detect the incidence of SABU in patients with SABI and to compare the prognosis of SABI associated with and without bacteriuria.

Methods

A cross-sectional study with follow up was performed at a tertiary care hospital among inpatients over 4 months. The study included 73 patients with at least one positive *Staphylococcus aureus* blood culture, and two urine cultures collected within 72 hours of blood culture positivity. Samples were processed using standard operating procedure with brain heart infusion broth enrichment (1 : 10) of culture-negative urine samples. Isolates were included based on matching colony morphology, biochemical tests, and ABST with 100% agreement. Patients were followed up for minimum 2 weeks to assess complications and in-hospital mortality.

Results

Among 73 SABI cases, 50.7% were Methicillin sensitive *Staphylococcus aureus*. Concurrent SABU detection was 15.1% while in-hospital mortality was 24.7%. Univariate analysis showed significantly higher occurrences of septic shock (OR = 6.240, $p=0.011$,) and in-hospital mortality (OR = 5.000, $p=0.022$,) with concurrent SABU compared to SABI alone. SABU was significantly associated with prior urological procedures ($p = 0.021$) and community-onset SABI ($p = 0.030$), with no significant association with in-dwelling urinary catheters ($p=1.000$). The univariate survival curve (Kaplan - Meier) showed that patients with SABU had a higher probability of death than SABI alone.

Conclusions

SABU is a predictive indicator for in-hospital mortality among patients with SABI suggesting that patients with SABU may benefit from more intensive treatment.

Oral Presentation - 09**Effectiveness of an Artificial Intelligence Based Tool in Answering Pharmacology Questions Set for Medical Undergraduates**

Liyanage PLGC¹, Hannibal GD¹, Sinhabahu TK¹, Mendis SA¹, Vithanage NVNN¹, Wanigatunge CA²

¹*Department of Pharmacology, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.*

²*Department of Pharmacology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Nugegoda, Sri Lanka.*

Introduction

Artificial Intelligence (AI) is increasingly being integrated into medical education. Effective use of AI has enhanced learning experiences among medical undergraduates.

AI-based tools such as ChatGPT (Generative Pre-trained Transformer) have expanded the limits of learning. This study was conducted to explore the effectiveness of ChatGPT in correctly responding to pharmacology questions set for medical undergraduates.

Methods

Sixty true-false type questions (TFQ), 60 single best response type questions (SBR) and 12 short essay questions (SEQ) were prepared and ChatGPT was requested to generate responses to these by feeding one question at a time.

The responses for TFQ and SBR were compared with standard answers given by two investigators using the most recent editions of reference text books. Answers to SEQs were analysed for accuracy by three academic pharmacologists separately. Marks were given out of 10 for each question.

Results

Among the responses obtained from ChatGPT for 60 TFQ, a single response was incorrectly marked in 28 questions (47%) and two and three responses were incorrectly marked in six questions each (10%). Nineteen of the 60 (32%) answers for SBR questions were incorrect. The mean (SD) score for the questions on SEQs was 6.58 (1.62) for which the minimum score was four and the maximum was eight. ChatGPT tended to include unnecessary information for SEQ answers.

Conclusions

The current version of ChatGPT has limitations in accurately answering TFQ and SBR in Pharmacology. ChatGPT was not sufficiently specific in generating answers for SEQs. Hence, it should not be the sole source of reference when answering Pharmacology questions.

Oral Presentation - 10

Adherence to Prescribing and Patient Care Indicators on Prescribing and Dispensing Medications to Patients Attending Medical Clinics in a Tertiary Care Hospital in Southern Sri Lanka

Mendis SA¹, Hannibal GD¹, Vithanage NVNN¹, Sinhabahu TK¹, Sevbandi RAW¹, Liyanage PLGC¹

¹*Department of Pharmacology, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.*

Introduction

Rational use of drugs ensures the patient's right to gain the correct medicine in adequate dose for an adequate duration, with appropriate information at an affordable cost. World Health Organization (WHO) has introduced core indicators of prescribing and patient care to evaluate the practice of rational use of drugs. Regular assessment of adherence to these standards is essential.

Methods

A descriptive study was conducted among 107 patients with chronic medical conditions selected by convenient sampling, attending medical clinics of National Hospital, Galle over three weeks. Prescribers' and dispensers' adherence to WHO core indicators for prescribing and dispensing practice were investigated. An interviewer administered questionnaire and prescriptions were used for data collection.

Results

Fifty-four females (50.5%) and 53 males (49.5%) were interviewed with a mean (SD) age of 73 (6) years. Half of the study participants (51.4%) were taking treatment for at least three co-morbidities.

The mean number of drugs per prescription was 4. In adherence to WHO core indicators, 92% of the prescribed drugs were written in generic names. Antibiotics were prescribed in 7.5% of prescriptions. Injectable drugs were prescribed in 2.8% encounters. Of all prescribed drugs, 87.5% were from the essential medicines list. Proportion of actually dispensed drugs was 84.2%. All dispensed drugs were actually labelled. Only nine (8.4%) patients could adequately report the dosage schedule of all drugs prescribed to them.

Conclusions

This study demonstrated that the adherence to prescribing and patient care indicators is satisfactory. Patients' knowledge on prescribed dosage regimen is inadequate. Strategies to improve patients' knowledge should be implemented to enhance patient care. Continuous assessment of rational use of drugs using set standards is important.

Oral Presentation - 11

Descriptive Study on Epidemiology, Demographic Variation and Occupational Exposure among Culture Positive Melioidosis Patients Treated at a Tertiary Care Hospital in Southern Sri Lanka**Piyasiri DLB¹, Jayasekera PK¹, Fonseka CL², Corea EM³**¹National Hospital Galle, Sri Lanka,²Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.³Faculty of Medicine, University of Colombo, Sri Lanka.**Introduction**

Melioidosis is a multi-system disease caused by the soil bacterium *Burkholderia pseudomallei*. The objective of this analysis was to describe the epidemiology, demographic data and occupational exposure of the melioidosis patients.

Methods

Anonymous database of 89 culture positive melioidosis patients from December 2014 to July 2024 in a tertiary care hospital of Southern Sri Lanka was accessed and analyzed. Multiple entries and relapses were excluded.

Results

Among the 89 patients, age ranged from 11 to 85 years with 75% (67/89) males. Age group 41 - 60 years (n = 47, 53%) was predominantly affected. There were only 2 females and 15 males were in the <40 years age group.

A Majority (n = 52, 58%) were from Galle district, 21 (24%) were from Matara, 13 (15%) were from Hambantota and 3 patients were from outside Southern Province.

Exposure to soil was admitted by 56 (63%) by being a farmer (n = 16), estate or manual worker (n = 20), gardening (n = 13), or playing in mud (n = 2). There were 4 fishermen, 4 retired soldiers who fought in the war front >10 years back, 4 victims of tsunami in 2004, and 12 flood victims. There were 8 tractor/lorry drivers involved in sand loading and transport of soil contaminated goods. There were 02 chefs who denied any sort of exposure to soil or contaminated water and 02 got the disease after near drowning.

Prevalence of diabetes and chronic kidney disease was 73% (65/89) and 17% (15/89) respectively in this cohort. Alcoholism and smoking were noted in 30 (34%).

Mortality was 17% (15/89) and 4 died on the consecutive 2nd admission before any diagnosis. Sixty-eight (76%) were discharged to the clinic follow-up.

Conclusions

Melioidosis was more prevalent among working men with exposure to soil and contaminated water in this cohort, with the majority being diabetics. More awareness is needed for early diagnosis of

Oral Presentation - 12**Validation of Caregiver Difficulties Scale for Assessing Caregiver Burden in Childhood Intellectual Disabilities****Wijesinghe CJ¹, Jagoda MA¹, Gamage SA², De Silva PV¹, Hewage CG³**¹*Department of Community Medicine, ³Department of Psychiatry, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.*²*District General Hospital, Matara, Sri Lanka.***Introduction**

Caregiving in childhood disabilities is often associated with adverse consequences affecting caregiver health and well-being. The burden of caregiving can lead to poor quality of care and unmet needs in the care recipient. Hence, caregiver assessment is considered as an essential component of any long-term care plan for children with special health care needs.

Caregiver Difficulties Scale (CDS) is a locally developed and validated tool to assess caregiver burden in cerebral palsy, which demonstrated satisfactory validity and reliability in cross-cultural studies. This study aimed to assess the validity of CDS for assessing caregiver burden in childhood intellectual disabilities in the Sri Lankan setting, as an extension of the original validation study.

Methods

A cross-sectional validation study was conducted in a sample of 63 caregivers of children with diagnosed intellectual disabilities (Down syndrome, Autism and Mental retardation), attending selected community-based rehabilitation services in Galle (Response rate=74%). Construct validity of CDS was established by confirming significant moderate to high correlations ($r \geq 0.3$) in the expected directions between CDS score and two

other constructs: caregiver quality of life [assessed using World Health Organization-Quality of Life-Brief (WHOQOL-BREF) questionnaire] and perceived stress [assessed using Perceived Stress Scale (PSS)]. Spearman's rank correlation was used to assess correlation between constructs at a significance level of 0.05. All analyses were performed using SPSS statistical software.

Results

Face validity, content validity and consensual validity of CDS was established through the initial development of CDS. CDS scores showed a significant moderate positive correlation with PSS score ($r = 0.343$, $p < 0.01$) and a negative correlation with WHOQOL-BREF total score ($r = -0.692$, $p < 0.001$) and domain scores (physical: $r = -0.572$, psychological: $r = -0.659$, social: $r = -0.479$, environmental: $r = -0.640$, all $p < 0.001$), confirming construct validity.

Conclusions

CDS demonstrated satisfactory validity to assess caregiver burden among caregivers of children with intellectual disabilities in Sri Lanka.

Poster Presentation - 01

Prevalence of Animal Rabies in Southern Province, Sri Lanka: A Descriptive Cross-sectional Study**Amarasiri AMSS¹, Ramanayake RMTM¹, Peiris HH¹, Samaraweera B², Udara GKJN²**¹*Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna, Galle, Sri Lanka.*²*Department of Virology, National Hospital Galle, Sri Lanka.***Introduction**

Rabies is one of the dreaded infectious diseases, which progress into invariably fatal encephalo-mylitis. Understanding population-wide trends in prevalence of rabies is vital for planning public health approaches for disease prevention and policy making. Hence this study was aimed to estimate the prevalence of animal rabies and its associated factors in Southern Sri Lanka.

Methods

A cross-sectional survey was done based on data retrieved from the archived patient and laboratory records for the period of January 2021 to December 2023, at the rabies unit in National Hospital, Galle, the sole rabies diagnostic unit in Southern Province. Data were analyzed by descriptive statistics.

Results

A total of 641 brain stem specimens from dogs (*Canis familiaris*; 54.6%), cats (*Felis catus*; 41.5%), rabbits (*Lepus nigricollis*; 0.6%), guinea pigs (*Cavia porcellus*; 0.2%), cattle (*Bos* spp.; 0.3%), squirrels (*Ratufa macroura*; 1.9%) and mongoose (*Herpestes smithii*; 0.8%), were received during the study period.

Among them, 48%, 38% and 41% were confirmed positive for rabies by Seller's staining and/or direct fluorescent antibody test in year 2021, 2022 and 2023, respectively. Most of them were received from Baddegama, Elpitiya and Galle MOH areas in Galle district (71%). The reduction in prevalence of animal rabies from 2021 to 2023 was statistically significant ($p < 0.05$). Majority of the positive cases (84.3%) were of canine in origin and from domesticated animals (50.6%). More than 90% of the positive cases were from the animals which were non-vaccinated or without a vaccination history. However, 1.7% of the positive cases were reported from the vaccinated animals.

Conclusions

This study highlights the prevalence of rabies in non-vaccinated domestic animals with a substantial percentage in dogs, although it shows a reduction in total number of positive cases with time.

Poster Presentation - 02

Artifacts in H&E-stained Sections of Oral Biopsies: A Descriptive Study Done in National Hospital Galle

Yasanthika KS¹, Ramanayake RMTM¹, Peiris Hh¹, Perera A²

*Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna, Galle, Sri Lanka.
Histopathology Unit, National Hospital Galle, Sri Lanka.*

Introduction

Histopathological analysis of oral biopsies can be affected by the presence of artifacts, which are artificially induced structural or tissue alterations occurring during various stages of preparation of stained histology slides. These artifacts can obscure normal cellular morphology and may be misinterpreted as abnormal cellular features having impact on the accuracy of the diagnosis. The aim of the study was to determine the frequency of artifacts found in H&E-stained sections of oral biopsies.

Methods

In this cross-sectional study, all H&E-stained oral biopsy slides prepared at the Histopathology laboratory of National Hospital Galle from January to September 2023 were included excluding faded slides. Slides were grouped into three according to the number of artifacts present when examined them under the light microscope. Descriptive data were analyzed using *SPSS*.

Results

A total of 337 H&E-stained oral biopsy slides were studied. Artifacts that could occur from tissue fixation and processing till preparing a stained slide were examined. The most frequent tissue artifacts identified were folds (46.3%), presence of water (27%), chatters (11%) and air bubbles (10.1%). None of the slides exhibited formalin pigment, carryovers, tangential sections and presence of wax artifacts. Of the total slides, 33% had no artifacts while 31% had two or more artifacts. Out of the slides with two/more artifacts, 83%, 59%, 29% and 23% had folds, presence of water, chatters, and air bubbles respectively.

Conclusions

Folds and the presence of water are the most frequent artifacts found among the examined slides. Reducing these artifacts is important to improve the quality of H&E-stained slides, which may directly affect the diagnostic outcomes.

Poster Presentation - 03

Anatomical Variation of Brachial Artery Branching Pattern and Its Relation to the Main Nerves in the Upper Limb: A Cadaveric Study

Kumara PBASMP¹, Rodrigo PSS¹, Bandara KMNA¹, Samarawickrama MB¹, Rodrigo M¹, Eranga URR¹

¹Department of Anatomy, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.

Introduction

The brachial artery (BA) is the main artery of the arm and constitutes the continuation of the axillary artery. It gives off two terminal branches, the radial and ulnar arteries. Normally, it bifurcates at the level of the neck of the radius. According to the literature, the BA might present a deviation from the normal pattern in 20% of the cases. Various branching patterns and high bifurcation may result in a series of complications during surgery and interventional radiology.

Methods

The branching pattern of the BA and its relation to the main nerves of the upper limb was studied during routine educational dissections of cadavers in the Department of Anatomy, Faculty of Medicine, University of Ruhuna.

Results

We observed 134 brachial arteries in 67 cadavers. Variations of bifurcation was encountered in 6 arteries (4.5%). These variations were observed in 5 cadavers where one cadaver showed bilateral variations. All 6 arteries bifurcated at different levels within the arm. Out of the 6 arteries, we encountered 4 superficial radial arteries and 1 superficial ulnar artery. In the other case, the radial and ulnar arteries showed normal pathway in the forearm though the division was at a higher level. There were 2 cases in which the median nerve was formed posterior to axillary artery making the BA more superficial in the arm.

Conclusions

Anatomical variations in the branching pattern of the BA and the positioning of adjacent nerves are crucial considerations in clinical practice, particularly in surgical procedures and diagnostic evaluations of imaging.

Poster Presentation - 04

Birth Defects among Babies Admitted to Neonatal Intensive Care Unit, Teaching Hospital Karapitiya

Sandaruwan WAA¹, Withanaarachchi K¹, Lakmali VGD¹, Malinda WAD¹, Liyanage UB², Gunawardene PVAI³

¹Neonatal Intensive Care Unit, ²Paediatric Unit, ³Department of Radiology, National Hospital Galle, Sri Lanka.

Introduction

Birth defects carry significant morbidity and mortality. The long-term outcomes affect social well-being of the family concerned. Two to four percent of live births are associated with congenital abnormalities. In Sri Lanka, 5,800 babies are born with birth defects for 328,000 babies born alive. It is the second leading cause of infant mortality in Sri Lanka.

Methods

Data was collected prospectively using the bed head tickets of babies admitted to Neonatal Intensive Care Unit (NICU), Teaching Hospital Karapitiya (THK) during the period from 01.01.2024 to 31.03.2024. An audit form was filled using data form national birth defect abstraction form. Data were analyzed prospectively.

Results

Fifty-two babies were admitted to THK during the study period. Out of them, 17 babies were born with birth defects including gastrointestinal atresia 55%, heart disease 35%, neural tube defects 5% and genitourinary anomalies 5%.

There were 71% babies with multiple anomalies. All babies born with congenital anomalies were evaluated with 2D Echo. Of the babies with birth defects, 35% are firstborn babies. Only 65% of the babies with birth defects had undergone anomaly scan. Mortality rate was 15%.

The mean age of the mothers of babies with birth defects was 35.5 years and age range were 18 - 45 years. Of the mothers, 41 % were primi gravidae. All mothers were immunised against rubella (compliance 100%), but only 76% had taken folic acid supplementation.

Conclusions & recommendations

Majority of the babies had multiple birth defects. Utilization of anomaly scan needed to be improved to detect anomalies early. Improved care at delivery is required for early intervention to reduce mortality.

Poster Presentation - 05

Neuro-development Care among Premature and Critically-ill Neonates Admitted to Neonatal Intensive Care Unit of the German Sri Lanka Friendship Hospital for Women**Sandaruwan WAA, Somarathne KM, Dehigama D, Lakmali VGD, Hapuarachchi G***Neonatal Intensive Care Unit, The German Sri Lanka Friendship Hospital for Women, Galle, Sri Lanka.***Introduction**

Neuro-development care is a broad category of interventions that is designed to minimize the tension faced by the babies in the NICU environment. It includes control of external stimuli such as vestibular, auditory, visual and tactile, by noise and light reduction as well as minimal handling, clustering of nursery care activities and positioning of the preterm babies.

Methods

This study designed as a prospective clinical audit recruiting consecutive babies that require neuro-developmental care. Selection criteria included preterm babies (<34 weeks), LBW (<2 kg) babies and critically ill neonates (all who needed O_2 >NPO₂ and circulatory support). Data collection done over 02 months from 01/04/2024 to 01/06/2024. Data was collected using the routine ward rounds adhering to neuro-developmental guidelines.

Results

There were 40 babies recruited during the study period. Forty-five percent light reduction standard care was given with dim lights to 55% of babies. Noise reduction standard care was given with soft noises with 32% noise reduction and 68% needed to maintain the silence. Protection from noxious odors standard care was given to 91% by practising alcohol rub farther away from newborn. Oral aversion and suckling standard care were given to 75% with minimal oral suctioning. Tactile stimulation and minimal handling standard care was given to 73% with cluster care while positioning standard care was given to 87% with implementation of supportive position techniques. All babies in the study required parents' standard care and understanding stress signals and consoling strategies standard care making it 100%.

Conclusions & recommendations

Neuro-developmental care practices are routinely practised at NICU. Improving infrastructure facilities such as shades for windows and reduction of light are required. Regular awareness sessions for all staff members and measures to increase human resources are also recommended. nurses.

Poster Presentation - 06

Effectiveness of Dydrogesterone Supplementation in the Management of Preterm Labour: A Systematic Review

Vithanage NVNN¹, Hannibal GD¹, Sinhabahu TK¹, Mendis SA¹, Mampitiya I², Liyanage PLGC¹

¹Department of Pharmacology, ²Department of Gynaecology and Obstetrics, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.

Introduction

Dydrogesterone is a synthetic progestogen. As the progesterone supplements are believed to reduce the rate of preterm deliveries, this review evaluates the efficacy of dydrogesterone in managing preterm labour.

Methods

The review adhered to PRISMA guidelines and included randomised clinical trials and clinical trials published in English, sourced from MEDLINE (via PubMed) and Cochrane Library. Reviews, books, and non-English documents were excluded. Of 31 studies retrieved, four met the selection criteria and provided evidence on the effectiveness of dydrogesterone in managing preterm labour. All selected studies, assessed for quality using the Jadad score, were of high quality.

Results

Among the four studies conducted, findings indicated that vaginal micronised progesterone gel (Crinone) exhibited superior efficacy in preventing preterm labour while 17- α hydroxyprogesterone caproate significantly prolonged the latency period ($p < 0.001$) and improved neonatal outcomes ($p < 0.001$) compared to oral dydrogesterone. Oral dydrogesterone did not reduce rates of recurrent uterine contractions and no significant differences were observed between dydrogesterone and placebo regarding latency periods, gestational age at delivery, rates of preterm delivery, pregnancy outcomes or neonatal outcomes in two studies.

Conclusions

The comparative analysis revealed that crinone and 17- α hydroxyprogesterone caproate are more effective in managing preterm labour than oral dydrogesterone. Further, research is warranted to refine the effectiveness of dydrogesterone supplementation in the management of preterm labour.

Poster Presentation - 07

Effectiveness of Oleogel-S10 in Wound Healing: A Systematic Review**Vithanage NVNN¹, Hannibal GD¹, Sinhabahu TK¹, Mendis SA¹, Liyanage PLGC¹, Liyanage PLAN²**¹Department of Pharmacology, ²Department of Community Medicine, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.**Introduction**

Oleogel-S10 is a herbal medicinal product which contains birch triterpenes from birch bark. This sterile gel is being developed to accelerate wound closure through effects of birch triterpenes on inflammation and epithelialisation during wound healing involving keratinocyte differentiation and migration. This review aimed to evaluate the efficacy of Oleogel-S10 in wound healing.

Methods

The review followed PRISMA guidelines and included randomised and clinical trials published in English, sourced from MEDLINE (via PubMed), Google Scholar, and Cochrane Library using keywords Oleogel-S10, birch triterpenes, and wound healing. Of 37 studies retrieved, six met the criteria and were assessed for quality using the Jadad score, with all rated as high quality.

Results

Among the studies, one study has reported that Oleogel-S10 is the first therapy to demonstrate accelerated wound healing in epidermolysis bullosa (RR 1.44, 95% CI: 1.01 to 2.05; $p=0.013$) and was well tolerated. Three studies found that Oleogel-S10 is accelerating re-epithelialisation of split-thickness skin graft donor site wounds while significant differences were detected in the skin's viscoelastic properties. Oleogel-S10 significantly accelerated the healing of superficial partial-thickness burn wounds, but it did not show a significant efficacy in the treatment of actinic keratoses compared to placebo treatment.

Conclusions

Oleogel-S10 demonstrates notable efficacy in accelerating wound healing, particularly in epidermolysis bullosa and superficial partial-thickness burns. Further, research is warranted to refine the effectiveness of Oleogel-S10 in wound healing.

Poster Presentation - 08

Predictive Validity of Full Blood Count in Detecting Influenza among Clinically Suspected Children: A Retrospective Study**Darshana ILAN¹, Ekanayake N², de Silva MHAD³**¹Department of Community Medicine, ³Department of Pediatrics, Faculty of Medicine, University of Ruhuna, Sri Lanka²St. George's University of Medicine, Grenada, West Indies.**Introduction**

Influenza in children ranges from subclinical to severe illness with complications. However, confirmation of its diagnosis based on positive PCR test for nasopharyngeal swab has become a challenge due to its cost and discomfort of the procedure. The aim of the study was to assess the predictive validity of Full Blood Count (FBC) parameters (WBC, neutrophils, lymphocytes, PCV and platelets) in detecting influenza among clinically suspected children.

Methods

A retrospective study was conducted in a sample of children clinically suspected for influenza at three private hospitals in Galle. Consecutive convenient sampling method was used and data were collected for one year period during 2023. All children who were on clinical suspicion of influenza by a Consultant Paediatrician who had both FBC and PCR test for nasopharyngeal swab as laboratory investigations extracted from available databases at relevant laboratories. PCR test for nasopharyngeal swab was considered as the gold standard test. Construct validity (known group comparison using Mann-Whitney U test) and criterion validity (ROC curve analysis and calculation of predictive measures) were used in the validation process at 0.05 significance level. Cut-off values were identified based on Youden's index.

Results

The study included 146 children (50% males). Median (IQR) age of the sample was 4 (2 to 6) years. Fifty-nine children (40.4%) had positive PCR results for influenza.

The median (IQR) WBC ($\times 10^3$) [7.4 (5.2-9.0) vs 9.8 (6.9-13.9), $p < 0.001$], neutrophil ($\times 10^3$) [4.1 (2.9-6.1) vs 5.8 (3.6-8.8), $p = 0.005$], lymphocytes ($\times 10^3$) [2.2 (1.5-2.9) vs 2.8b (1.9-4.4), $p = 0.002$], and platelet counts ($\times 10^3$) [234 (205-306) vs 305 (255-372), $p < 0.001$] were lower among children diagnosed with Influenza except for PCV (%) [37.3 (34.5-38.9) vs 35.8 (33.7-37.6), $p = 0.021$] and all of them were statistically significant. All of them had statistically significant diagnostic accuracy ($p < 0.05$) based on ROC curve analysis. The cut off points were in normal range for all parameters. WBC count had the highest predictivity (AUC=0.71; 95%, CI 0.63-0.79). However, by considering absence of leukocytosis ($< 11 \times 10^3$) as the cut-off point, WBC count revealed significant predictive validity: sensitivity (77.9%), specificity (51.2%), positive predictive value (50.5%) and negative predictive value (76.4%).

Conclusions & recommendations

There is a statistically significant difference in full blood count parameters between the influenza positive and negative groups. They had satisfactory diagnostic accuracy but calculation of predictive ability was limited with cut off points in normal range for all parameters. FBC findings combined with clinical presentation can be recommended as a cost-effective method instead of PCR to use in clinical practice specially in low resource settings. However, further validation studies with large samples will be required to generate more strong evidence.

Poster Presentation - 09

The Effectiveness of ChatGPT in Answering Paediatric Questions Made for Medical Undergraduates

Kankanarachchi I¹, Hannibal GD², Sinhabahu TK², Liyanage PLGC²

¹Department of Paediatrics, ²Department of Pharmacology, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.

Introduction

Artificial Intelligence (AI) in medical education can be used as a learning tool to enhance understanding and long-term retention. This is in contrast, to utilizing it as a tool to merely retrieve factual information quickly, encouraging rote memorization.

This study aimed to explore the ability of the AI tool, ChatGPT (Generative Pre-trained Transformer) to correctly respond to paediatric questions made for medical students.

Methods

The study used two types of questions; 30 true false type questions (TFQ) and 12 essay questions prepared covering important aspects in paediatrics. ChatGPT was used to generate responses to questions prepared by feeding one question at a time, deleting previous chat history before each submission.

The responses for TFQ were copied and compared against the standard answers prepared by two investigators using the most recent editions of reference text books. Both the questions and the marking scheme were approved through a scrutiny board headed by a Senior Lecturer in Paediatrics.

Answers for the paediatric essay questions were analysed for precision and relevance by a Senior Lecturer in Paediatrics.

Results

Of the thirty TFQ considered, a single stem was noted to be incorrect in 12 questions (40%). Two stems were incorrect in 7 questions (23%) and three stems were incorrect in four questions (13%). Mean difference is 2.4 points, which is significant. The mean (SD) of the correct answers for the paediatric essay questions was 83.75 (13.039). The minimum score allocated for the paediatric essay type questions was 50 out of 100 while the maximum was 100 out of 100 marks.

Conclusions

The current version of ChatGPT has limitations in accurately answering TFQs. While essay responses are often precise and pertinent though there were missing aspects in some. ChatGPT should not be the sole resource for learning paediatrics to avoid inaccuracies and ensure the development of critical thinking skills in students.

Poster Presentation - 10

Severity of Adverse Drug Reactions Reported among Inward Patients: A Surveillance Initiative at National Hospital Galle

Sinhabahu TK, Vithanage NVNN, Hannibal GD, Mendis SA, Liyanage PLGC

Department of Pharmacology, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.

Introduction

Adverse drug reactions (ADRs) pose a substantial threat to both public health in developing nations, contributing significantly to morbidity and mortality rates. In Sri Lanka, epidemiological data on the prevalence of ADRs in the general population is limited. The study was designed to determine the characteristics and severity of ADRs with the details of the suspected agent among inward patients of National Hospital Galle (NHG).

Methods

The Department of Pharmacology, Faculty of Medicine, University of Ruhuna, is conducting an active surveillance to report ADRs from NHG. This audit was based on ADRs reported among patients admitted to Medical, Surgical, Paediatric and Dermatology wards of NHG from April to July 2024. Manual collection of suspected ADR data was done by pre-intern doctors, using the national ADR report form. Convenience sampling was used. Severity of ADRs was classified using the Modified Hartwig and Siegel scale. Descriptive statistics were done using *SPSS* statistical software.

Results

A total of 70 ADRs were collected. Of these, 36 (51.4%) of the affected were females. Among the total, 51 (73%) were adults and 19 (27%) were paediatric patients. Out of ADRs collected eight (11.4%), forty-nine (70%) and thirteen (18.6%) were categorised as mild, moderate and severe reactions respectively. Of the total ADRs, forty-two (60%) were due to antibiotics. Among these, co-amoxiclav (17%), flucloxacillin (14%) and clindamycin (14%) were the commonest antibiotics. Among the thirteen severe ADRs, six were due to anaphylaxis and four lead to Stevens-Johnson syndrome.

Conclusions

Seventy percent of the ADRs reported from NHG were moderate reactions; 60% were due to antibiotics.

Poster Presentation - 11

Survey to Assess the Adequacy of Information in Transfer forms at a Paediatric Ward in Teaching Hospital Karapitiya**Kariyapperuma KADSR¹, Liyanage UB¹, Palliyaguruge JS¹, Liyanage A², Warnasuriya TDN¹**¹*National Hospital Galle, Sri Lanka.*²*Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.***Introduction**

Teaching Hospital Karapitiya (THK), the largest tertiary care hospital in Sri Lanka's Southern Province, serves as a referral centre and relies on standardised transfer forms for patient handovers. Incomplete or inadequate forms can lead to communication errors and impact patient care. This audit was conducted to evaluate the adequacy of information in transfer forms at a Paediatric ward in THK.

Methods

A retrospective study was conducted at ward 36, THK from 1st January to 30th June, 2024. Out of 393 transfer forms, 195 were randomly selected for analysis. Data gathered were entered into an Excel spreadsheet and analysed using *SPSS* software to assess information completeness.

Results

Analysis of 195 transfer forms revealed that most forms came from base hospitals (54.64%), followed by divisional hospitals (39.18%) and district general hospitals (6.19%). Name, registration number, age, and gender were complete in all forms. However, patient addresses, race and religion were missing in 39.7%, 89.7%, 92.3% respectively.

Although the guardian names were listed in 97.9%, guardian addresses were missing in 90.2%. Reasons for transfer were noted in 72.7%, while expected interventions were mentioned only in 23.2%. Presenting complaints and clinical conditions at admission were included in 70.1%, but the condition at transfer were noted only in 2.6%. Investigation results were mentioned in 67.5% and 48.5% included a diagnosis card or referral letter. Treatment details from the transferring hospital were noted in 62.9%, with drug starting dates and last doses mentioned in 35.6% and 35.1%, respectively. Consultants' signatures were absent in 52.6%, and the transferring officer's designation was missing in 52.6%. Only 32.4% of transfer forms reported a discussion with the consultant before transfer.

Conclusions

The study highlights significant deficiencies in the completion of transfer forms, with critical details missing. Adherence to Ministry of Health guidelines is insufficient, which could impact patient care. Improved compliance and potential revisions to the transfer forms are needed to ensure all essential information is provided.

Poster Presentation - 12**Analysis of Teenage Pregnancies Reported in Hikkaduwa MOH Area: Need of Strengthening the Delivery of Family Planning****Hatharasinghe RT¹, Chandrasiri A², Chathurangika K², Ranaweera P²**¹MOH Office, Hikkaduwa, Sri Lanka. ²RDHS Office, Galle, Sri Lanka.**Introduction**

Teenage pregnancies lead to several adverse outcomes at both individual and societal levels. Rising incidence of teenage pregnancies had been identified as a significant public health issue. An audit was conducted with the objective of describing some of the key characteristics of all teenage pregnancies reported in Hikkaduwa MOH area during the year of 2023.

Methods

A data sheet was developed and distributed to all Public Health Midwives (PHMs) to report the basic information related to all the reported teenage pregnancies during the year of 2023. None of personal information were collected and only de-identified data were used. Administrative approval was sought from RDHS to obtain data.

Results

A total of 24 teenage pregnancies were considered for the analysis. Mean age of mothers was 17.8 (age range - 15 to 19) years. Mean age of partner was 22.0 (age range - 16 to 36) years. All mothers were Sinhalese and Buddhists.

When considering the educational status 58.3% had studied up to grade 11 and above (range Grade 10 - Grade 13). Majority (75.0%) were legally married. A modern family planning method was attempted to introduce only for 8 (33.3%) mothers by PHMs. However, 5 (62.5%) of them rejected family planning. Majority (25.0%) of spouses were fishermen.

Conclusions & recommendations

Majority of mothers with teenage pregnancies were legally married. Approach of PHMs to introduce family planning was not satisfactory with a higher rejection rate. This highlights the importance of pre-conceptional care delivery for women who marry at lower age. Strengthening the family planning counselling and addressing other barriers to increase uptake is important. More awareness programmes should focus on fishing community of the Hikkaduwa MOH area.

Poster Presentation - 13

Construction Sites Require More Attention: Analysis of Entomological Indices Reported in Special Dengue Prevention Programme

Chathurika S¹, Chandrasiri A², Hettiarachchi E², Mohotti I², Ranaweera P², Mudalige S³, Dissanayake D²

¹MOH Office, Balapitiya, Sri Lanka,

²RDHS Office, Galle, Sri Lanka,

³MOH office, Habaraduwa, Sri Lanka.

Introduction

Dengue is known as one of the most important communicable disease in Sri Lanka with significant morbidity and mortality. Galle District reports high number of cases and outbreaks occur during South-West monsoon season. The National Dengue Control Unit (NDCU) had announced a special three-day dengue control programme in several high-risk districts including Galle.

Methods

The programme covered 12 Grama Niladari (GN) divisions from 4 high risk MOH areas in Galle District. The team of investigators included dengue assistant officers, police and armed forces members with MOHs and PHIs providing overall guidance. Then, small teams were formed consisting 2-3 and deployed to each street/ area of village. Prior awareness was given for teams about detecting mosquito breeding places, identifying larvae, giving appropriate health education and process of legal actions. All data were recorded in data sheets and returns were handed over by each team to MOH office every evening. The MOH prepared consolidated returns and sent to NDCU and RDHS Galle. These consolidated returns were subjected to descriptive analysis elaborating some of the key aspects of entomology of *Aedes* mosquito.

Results

A total of 5748 premises were inspected over 3 days programme and there were 1246 premises with potential breeding sites. There were 460 premises with larvae with overall premise index of 8.0%. However, a variation was reported across different MOH areas. Akmeemana reported highest premise index (12.4) while Habaraduwa reported the lowest (3.9). Highest premise index (33.3) was reported from construction sites followed by private education institutes (17.1) and religious places (16.7).

Conclusions

A significant variation of 'premise indices' was noted across different areas and that can be attributed to socio-demographic contexts of areas. More attention should be paid to construction sites, private education institutes and religious places in future control programmes.

Poster Presentation - 14

Gathering of Public Health Staff for Meetings, Reviews and Trainings: Does It Restrict Their Available Time for Service Delivery?

Somarathna KM, Chandrasiri PAA, Senevirathna RRWL

RDHS Office, Galle, Sri Lanka.

Introduction

Frequent physical gatherings of public health staff for various programmes including meetings, reviews and trainings have been detected as a disturbance for delivering essential services at the field level. Most of public health officials including MOHs, AMOHs, Public Health Nursing Sisters (PHNS), Supervising PHIs (SPHI), and Supervising PHMs had expressed their worries about frequent changes and cancellation of field clinics. This also affects the time they have for supervision. The aim of this study was to analyse the frequency of conducting meetings, reviews and trainings for supervisory level Public Health staff in Galle District.

Methods

A descriptive analysis was conducted by reviewing available data at the Human Resource Development (HRD) Unit of RDHS, Galle. Each unit of RDHS submits details of meetings, reviews and trainings they conducted to the HRD Unit on a monthly basis. Information about all official gatherings of public health staff over a period of three months in the year 2023 was obtained. Approval was taken from the Regional Director to extract data.

Results

During the respective three months, there were 63 full working days (excluding weekends and public holidays). MOH or AMOH were called for 14 working days and that comprised 22% of working days. SPHMs were called for 10 days (16%) and PHNSs were gathered for 8 days (12%). Overall, the majority of gatherings were Training of Trainer (TOT) programmes (83%) and most (81%) were organized by the central level.

Conclusions & recommendations

Gathering of key public health officials at the field level looks 'too much' and that specially involved MOHs and SPHMs. Most of such programmes were centrally organised TOTs. Clustering of programmes with efficient time management is recommended to minimize the number of times they need to physically attend.

Poster Presentation - 15

Performance Evaluation of Glucometers in a Tertiary Care Hospital in Sri Lanka**Senevirathna DCL¹, Yapa HDN², Ubeysekara PM², Jayasinghe RI², Dissanayake M³***Department of Chemical Pathology, National Hospital Galle, Sri Lanka.***Introduction**

Point of care testing by glucometers facilitates rapid glucose measurement in needy patients. Quality management processes are essential to ensure the precision and the accuracy of these measurements. Adherence to regular performance verification programmes is also mandatory to assess their suitability to use. Knowledge of the clinical staff regarding the operation of glucometers and the storage of the strips matters. In this context, this study aimed to evaluate the analytical performance of glucometers and to determine the knowledge on standard operation procedure (SOP) and the quality management processes of glucometers among the clinical staff in a tertiary care hospital.

Methods

Comprehensive evaluation of 75 glucometers of three different brands, currently being used in the Teaching Hospital, Karapitiya was carried out. Both the intra assay precision and the accuracy were assessed across three medically significant ranges of known glucose values (lower, normal and higher) using pooled venous blood samples. The assay by glucose oxidase method on the automated analyser in the core laboratory was used as the reference method for comparison.

Adequacy of the knowledge and the quality management being used were assessed on direct questioning.

Results

Of the 75 glucometers evaluated, 39 (52%) were able to meet the criteria for acceptance (<20% bias and <15 % intra-assay precision). The remaining 36 (48%) demonstrated unacceptable performance. None of the ward/unit representatives knew the quality control procedures and external quality assurance for glucometers. Only 10/75 of the participants (13.3%) had satisfactory knowledge on SOP of glucometers.

Conclusions

Performance of half of the glucometers in use was unsatisfactory. These could have been identified if the quality control procedures, external quality assurance and regular post marketing performance evaluation were carried out. It is essential to educate the clinical staff regarding SOPs and quality management to fill the gaps in knowledge.