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P 01

Epigenetics Mechanisms and Their Roles: A Narrative Literature Review

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Abstract

Background: Epigenetics involves heritable gene-expression changes without altering DNA sequence, mediated by DNA methylation, histone modification, chromatin remodeling, and non-coding RNAs. Methods: A narrative review examined epigenetic mechanisms across microorganisms, plants, animals, and humans, including AMR. Results :Epigenetic regulation is evolutionarily conserved but organism-specific. In microorganisms, it regulates virulence, adaptation, multidrug efflux, and reversible AMR, including antifungal resistance. In plants, it influences development and stress adaptation; in humans, differentiation, immunity, and disease. Discussion: Epigenetics links environmental exposure with dynamic gene regulation and may inform antimicrobial stewardship and One Health surveillance.

Introduction

Epigenetics describes changes in gene expression without alteration of the underlying DNA sequence. These mechanisms involve DNA packaging, histone modifications, and regulatory RNA, including long non-coding RNA. Environmental factors such as diet, stress, toxins, and disease influence epigenetic regulation, affecting gene expression, inheritance, development, and disease across biological systems.





Methodology

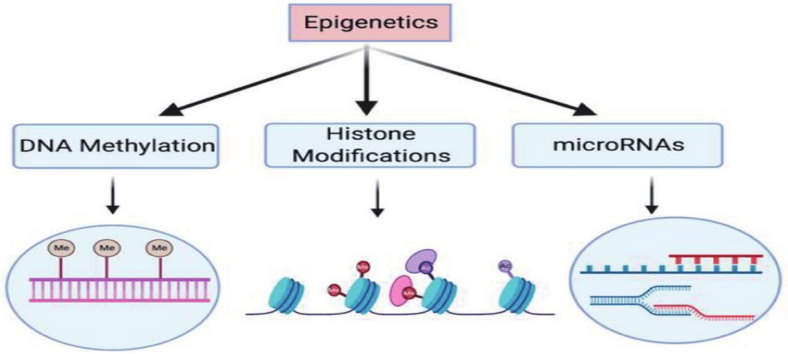
A narrative literature review examined peer-reviewed literature addressing epigenetic mechanisms and their roles in microorganisms, plants, humans, and animal models.

Evidence concerning DNA and histone modifications, regulatory RNA, environmental influences, inheritance, gene regulation, and epigenetic therapies was synthesized. Ethics: approval was not needed as this was a simple narrative literature review.

Results

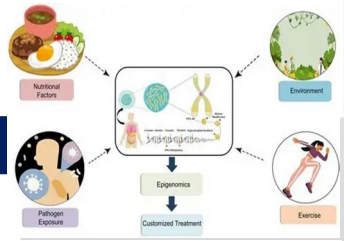
Epigenetic regulation contributes to environmental–genetic interactions, inheritance of functional traits, disease development, and potential therapeutic approaches, particularly in human disease. Figure 1, shows the main epigenetic mechanisms. RNA Based Mechanisms– lncRNA, miRNA, siRNA.

Figure 1: Mechanisms of Epigenetic Disease



Discussion

Epigenetics provides an important framework for understanding how environmental exposures interact with genetic information to influence phenotype. Its effects extend beyond humans to microorganisms and plants, demonstrating broad biological relevance. Understanding these mechanisms may improve interpretation of disease pathways and support development of targeted epigenetic therapies. Limitations: This was a simple narrative review and lacked the rigor of a systematic methodology or metanalysis.



Conclusion

Epigenetics provides an important framework for understanding how environmental exposures interact with genetic information to influence phenotype. Its effects extend beyond humans to microorganisms and plants, demonstrating broad biological relevance.

Understanding these mechanisms may improve interpretation of disease pathways and support development of targeted epigenetic therapies.

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Percutaneous Radiofrequency Ablation for a Symptomatic Hepatic Hemangioma

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Abstract

We report the successful percutaneous radiofrequency ablation (RFA) of a symptomatic hepatic hemangioma in a 34-year-old woman. Two-year follow-up demonstrated marked lesion reduction, absent enhancement and complete symptom resolution, supporting RFA as a minimally invasive alternative to surgery in selected patients.

Introduction

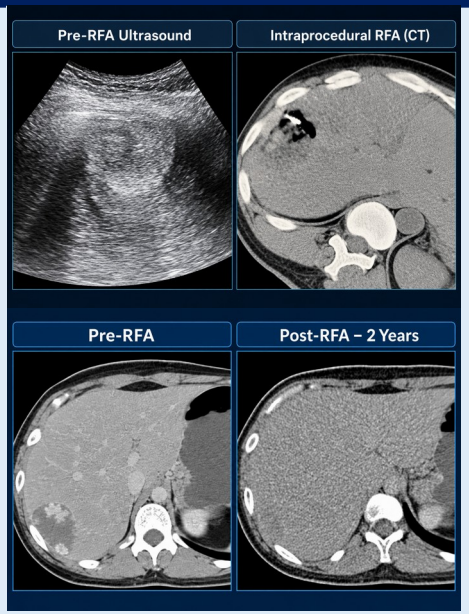
Hepatic hemangiomas are common benign vascular liver lesions, usually asymptomatic with characteristic imaging appearances. Symptomatic lesions, particularly those approaching or exceeding 5 cm, may require intervention. Treatment options include surveillance, surgery and image-guided ablation. This report evaluates the feasibility and clinical outcome of percutaneous RFA.

Methodology

Single-patient case report with informed consent. A professional dance instructor presented with right upper quadrant, atypical chest and shoulder pain affecting her work. Ultrasound and CT demonstrated a segment VII hepatic hemangioma measuring 4.9 × 4.0 × 3.6 cm. Following multidisciplinary consultation, percutaneous RFA was performed using a 3 cm StarMed electrode under combined ultrasound and CT guidance, with conscious sedation. Imaging was obtained before, during and after treatment, including two-year CT follow-up.

Results

Technical success was achieved without immediate complications. The patient was discharged the following day. Follow-up CT demonstrated a non-enhancing post-ablation focus measuring 3.0 × 1.7 × 2.0 cm, representing marked reduction in lesion size. At two years, the patient remained asymptomatic, with no imaging evidence of recurrence. No residual enhancement was seen within the residual post-procedure fibrotic change.



Discussion

Percutaneous RFA provides a tissue-sparing alternative to surgical resection, avoiding incisions and general anaesthesia while facilitating rapid recovery. Published experience supports its effectiveness in selected symptomatic hemangiomas, although complications remain possible, particularly with larger lesions. This case demonstrates durable symptom relief and radiological response.

Conclusion

Image-guided percutaneous RFA merits consideration as a minimally invasive treatment option for carefully selected symptomatic hepatic hemangiomas following multidisciplinary assessment.

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THIS Child

Under-diagnosed, Misunderstood, Falling through the Gaps

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11-10-2026

Abstract

14-year-old healthy male A.L. with severe expressive language deficits, who is a Child of Deaf Adults (CODA) both living in separate rural locations in Trinidad.
Complex and unusual communication dynamics leads to challenges in education access and school functioning.
Public health and education sector resource limitations lead to gaps in management as well as planning for transition to adulthood and dignified independent functioning

Introduction

This case report focuses on a unique, misunderstood and underdiagnosed adolescent.

There is a critical need for timely developmental interventions and structured communication support for Children of Deaf Adults (CODAs) navigating complex psychosocial environments.

The impact of geographic disparities in health, disability, and educational services directly jeopardize crucial ongoing management and pediatric-to-adult transition planning, underscoring the urgency of systemic accommodations to reduce long-term functional risk.

Clinical Information

- **Background**: Normal perinatal history. Healthy adolescent. Normocephalic. Normal physical exams
- **Development**: Minimal speech. **Uses Manual Sign Language**. Atypical & delayed learning skills.
- **Education:** Attended pre-school till age 6yrs – (limited funds & COVID19). No access to Speech Therapist. At present: Rural **Mainstream School . Std 3 placement : sub-optimal functioning**. No **Sign Language interpreter. No Individualized Education Plan (IEP)** . Administrators plan to "skip" him to Std 5 to allow an attempt at Secondary Entrance Assessment (S.E.A.) exam).
- No plan or resources available for **Transition to & support in Adult life and functioning**.
- **Psychosocial:** a complex **bimodal–multimodal family context:** mother is congenitally profoundly deaf with consistent manual sign language, inconsistent lip-reading & limited education; Father is post-lingually deaf and can speak & lip-read. Has tertiary education. When visiting his father and his step mother, A.L. is coaxed to speak but speech prosody resembles "deaf speak." His younger sister is typically developing & was sometimes asked to "speak for him" when they attended the same school

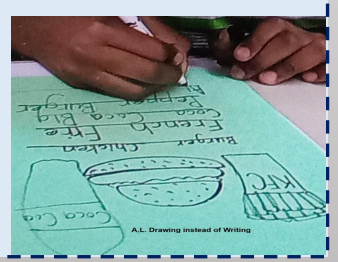
Investigations

- **Lab tests**: Within Normal Limits
- **CT Brain**: Within Normal Limits
- **Audiologic tests** (done twice) DRETCHI
  - Visually Reinforced Audiometry
    Within Normal Limits (WNL)
  - Type A tympanogram bilaterally- WNL
  - Oto Acoustic Emissions - Normal
- **Psychoeducational Screening** – (limited studies/resource limitations) – Suspected Learning Disability. Autism was ruled out

A.L.'s Preferred Activities @ Age 14 yrs







Discussion & Recommendations

Focus	The Gaps	Rights & Policy	Recommendations
Communication Dynamics	Delays & "deaf speak" stem from CODA home environment, not hearing loss.	UNCRPD Article 21	• Targeted bimodal speech therapy. • Family linguistic support.
Socioeconomic Gaps	Poverty, remote geography, and COVID-19 blocked early intervention.	SDG 10 UNCRPD Art. 25	• Deploy telehealth to rural areas. • Fund mobile screening clinics/early intervention.
Educational Inequity	No IEP/interpreter; forced "skip" just to take a standardized exam.	SDG 4 UNCRPD Art. 24	Mandate a formal IEP. Provide school interpreters Provide relevant vocational training

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Thrombocytosis in the Paediatric Burn Patient

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Abstract

This report involves a six month old male patient who sustained approximately fifty percent total body surface area TBSA, mixed partial thickness MPT, scald burns. During the course of admission this patient had thrombocytosis with paradoxical thrombocytopenia preceding the rise in platelets.

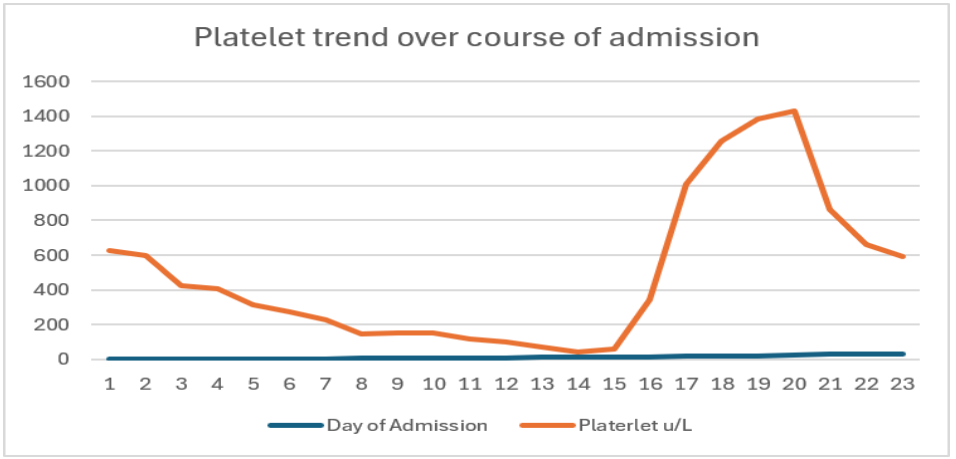
Introduction

We outline the successful management of burns associated- thrombocytosis in a paediatric patient, which has rarely been reported on however thrombosis associated mortality in large burns remains high.

Methodology

- This case report was written in retrospect.
- Consent and permission to reproduce this patient's medical details were obtained from their next of kin.

Results



This case involves an eight kilogram six month old patient with 50% TBSA MPT burns, with thrombocytosis on day 18 of admission. A peripheral blood smear and citrated platelet count confirmed a true thrombocytosis.

Discussion

The magnitude of the consequences of thrombocytosis is not fully understood in the paediatric population. Thrombocytosis can result in thrombosis formation within cerebral, coronary and mesenteric arteries and venous thromboembolism VTE.

Conclusion

A thrombocytosis can be expected in patients with large burns. Platelet count should be monitored whilst patients are warded, even when all parameters of the complete blood count are normal, so as to prevent thrombosis.
Patients with more than 30% TBSA burns with thrombocytosis exceeding 1000u/L and paediatric patients who are immobile, intubated and/or with a central venous catheter - a low dose antithrombotic agent should be commenced.

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Public Awareness and Clinical Knowledge of Sepsis in Trinidad and Tobago

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Abstract

Evidence on sepsis awareness in Trinidad and Tobago and the wider Caribbean is limited.
We assessed, via online survey, public awareness and knowledge of sepsis, clinical knowledge among eligible respondents, and examined associations between knowledge level and selected respondent characteristics. Professional group was the only factor significantly associated with public sepsis knowledge. Two-thirds of clinical knowledge respondents demonstrated high levels of clinical knowledge, but one-third had moderate or low knowledge levels, indicating important knowledge gaps.

Introduction

- Global awareness of sepsis and its recognition is inadequate (1). There is limited regional and local data on awareness and knowledge of sepsis in the Caribbean, and no local data on this topic (2).
- This study aimed to assess general awareness and knowledge of sepsis among adults who completed an online survey in Trinidad and Tobago. It also aimed to determine whether public knowledge level of sepsis was associated with selected demographic, educational, occupational and geographic characteristics, and to examine specialised clinical knowledge among eligible respondents.

Methodology

- Cross-sectional online survey from February 2025 to April 2026 via convenience sampling. Frequencies, percentages, chi-square tests and exact tests were used. Inclusion criteria: ≥18 years old, could give informed consent. Exclusion criteria: <18 years, unable to give informed consent. 220 responses.
- Ethical approval from Ministry of Health of Trinidad and Tobago and the Eastern Regional Health Authority Research Ethics Committee.

Results

- 93.6% of 220 respondents had heard of sepsis and 95.9% identified the general definition. Recognition of warning signs was incomplete, and 30.5% knew the global sepsis mortality. Public knowledge was low for 22.7%, moderate for 58.6% and high for 18.6%. Professional group was associated with public knowledge (Fisher's Exact Test, $p < 0.001$); no statistically significant associations were found for sex, age, education level, area of residence or prior awareness.
- Of the 165 eligible for the specialised section, 66.7% had high levels of clinical knowledge, and 33.3% had moderate or low knowledge levels. 88.9% of doctors had high clinical knowledge, and 67.6% of nurses had high clinical knowledge.

Discussion

- A 2022 review of the literature on sepsis awareness and knowledge found that knowledge and awareness of sepsis is greater among healthcare workers than among the public/patients, and public/patient awareness of the term sepsis ranged from 2% in Japan to 88.6% in Germany (1).
- Differences in our results versus prior studies is likely due to small sample size, and convenience sampling via online survey, which causes selection and coverage bias. Results describe respondents in this particular study and should not be generalised to all adults in Trinidad and Tobago.

Conclusion

Recognising the term sepsis did not translate into detailed or clinically actionable knowledge. Public education should focus on warning signs and prompt care-seeking, while professional education should address the clinical domains in which weaker

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Managing Difficult Airways: Knowledge, Attitudes and Practices of Hospital-Based Physicians Across T&T

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Abstract

Difficult airway management is critical for patient safety, yet physician preparedness across Trinidad and Tobago remains underexplored.

A cross-sectional study obtained 140 completed questionnaires from 226 participants (61.9%) across four Regional Health Authorities using a 39-item survey. Routine confidence was encouraging, but surgical-airway preparedness remained a critical gap. Training gaps, limited equipment and absent protocols were key barriers.

The findings support recurrent airway training, improved equipment availability and standardised institutional protocols to strengthen preparedness and patient safety.

Introduction

Difficult-airway emergencies threaten oxygenation and may cause brain injury, cardiac arrest or death. They occur across operating theatres, emergency departments, intensive care units and wards. Safe response depends on clinical judgement, practical skill, equipment and institutional support. Evidence on physician preparedness in Caribbean health systems remains limited.

Unequal access to training and equipment can produce inconsistent emergency responses. Identifying modifiable gaps can guide workforce development and improve patient safety.

Objectives: assess confidence and comfort, identify training and institutional factors linked to preparedness, describe assessment, documentation and escalation practices, and identify barriers and priorities for intervention.

Methodology

- Physicians in airway-relevant departments across NCRHA, SWRHA, ERHA and TRHA
- Cross-sectional convenience sample; 140 completed questionnaires
- 39-item self-administered survey using Google Forms, QR codes and RHA visits
- Descriptive statistics and chi-square testing in IBM SPSS ($p < 0.05$)
- Ethics approval from UWI and participating RHAs

Participants: 59.6% female, 53.2% House Officers and 61.2% mainly in tertiary facilities. Anaesthesia and Emergency Medicine each contributed 30.2%, and 21.6% worked across Anaesthesia and ICU.

Results

Confidence and training

64.7% reported no surgical-airway confidence. 39.6% lacked confidence in every listed surgical technique.

Formal training was associated with adjusted odds of routine confidence of 10.8 (95% CI 3.1–37.6) and surgical confidence of 2.6 (95% CI 1.1–6.4).

93.5% said training and 86.3% said equipment availability influenced confidence.

Seniority correlated with confidence ($p < 0.001$). Confidence was lower for surgical than routine management ($p = 0.019$). Written policy alone was not associated with confidence ($p = 0.62$).

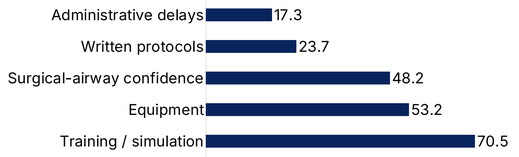
Practice and system readiness

- 74.1% always assessed the airway.
- 35.3% always documented encounters.
- 51.8% reported a written policy.
- 86.3% said resource limitations affected management.
- 79.9% said stress influenced decisions.
- 65.5% would seek senior help.
- 64.0% used a standard approach after failed intubation.
- 49.6% always checked equipment before a predicted difficult airway.

Reported confidence (%)



Reported barriers (%)



Training and simulation (%)



Discussion

- Routine confidence likely reflects the concentration of airway-intensive specialties and tertiary facilities.
- Surgical access remains a high-risk, low-frequency skill vulnerable to decay.
- Formal training showed the strongest association with confidence, yet simulation practice was uncommon.
- Equipment influenced confidence for 86.3%, linking clinician preparedness with facility readiness.
- Airway assessment was common, while documentation remained inconsistent.

Limitations
- Cross-sectional design prevents causal inference.
- Convenience sampling introduced selection and non-response bias.
- Tertiary facilities and airway-intensive specialties were overrepresented.
- NWRHA was not included.
- Self-reported confidence may differ from observed competence.
- The questionnaire lacked formal validity and reliability testing.

Conclusion

Routine confidence was encouraging, but surgical-airway preparedness remained the critical gap.

- Mandate recurrent competency-based airway training and assessment.
- Run simulations for failed intubation, escalation and surgical-airway techniques.
- Standardise protocols, difficult-airway carts, equipment checks and documentation.
- Extend mentorship and training beyond tertiary centres.

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Acknowledgments: participating physicians, supervisors, RHAs and all persons who supported data collection.
Supervisors: Dr Darren Dookeram and Dr Salma Mohammed.

Study N = 140. 68.1% Response Rate, across 4 RHAS. Denominators vary where questionnaire items had missing or invalid responses. Ethics approval: UWI and participating RHAs.

THE RELATIONSHIP BETWEEN SENSE OF COHERENCE (SOC) AND SELF-MANAGEMENT BEHAVIOURS AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS IN TRINIDAD AND TOBAGO

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Introduction

Sense of Coherence (SOC) is the extent to which persons with a condition understand their condition (comprehensibility), feel able to manage available challenges and resources (manageability), and find meaning or motivation in maintaining their health (meaningfulness). This study explored how SOC relates to diabetes self-management behaviours among older adults with type 2 diabetes mellitus in Trinidad and Tobago.

Objectives

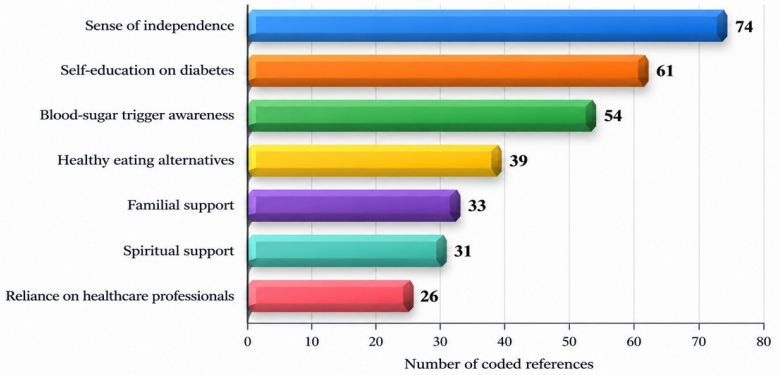
1. To assess the levels of Sense of SOC among adults diagnosed with type 2 diabetes mellitus in T&T
2. To evaluate the relationship between SOC and self-management behaviours (medication adherence, dietary habits, physical activity, and glucose monitoring.)
3. To identify the socio-demographic and psychosocial factors (age, education, social support, duration of illness) that may influence the relationship between SOC and diabetes management.

Methodology

A qualitative, exploratory cross-sectional phenomenological study was conducted between March and May 2026.
Eight adults with type 2 diabetes mellitus were recruited through the Diabetes Association of Trinidad and Tobago using purposive sampling.
Data were collected through in-person in-depth interviews and analysed thematically using Dedoose qualitative software.
Ethical approval was obtained from The University of the West Indies Campus Research Ethics Committee.

Results

Figure 1. Most Frequently Identified Codes Relating to Sense of Coherence and Diabetes Self-Management Among Participants (n = 8)



Some Quotes From Participants In The Study

" I do my own research…" - Participant 5, Comprehensibility

"I don't want to be no one foot Joe" - Participant 1, Mangability

"Everyday I ask Him to give me strength to continue" Participant 2, Meaningfulness

Discussion

The findings suggest that SOC influenced how participants understood and managed the demands of type 2 diabetes mellitus. Comprehensibility was developed largely through self-directed learning, healthcare education, family experiences, and blood glucose monitoring, which helped most of the participants to recognise their personal triggers and adapt daily routines.

Additionally, manageability was supported by personal expertise, family and spiritual support, and healthcare resources; however, healthcare-system barriers sometimes limited diabetes education and encouraged participants to seek information independently. Lastly, meaningfulness was reflected in faith, family and community connections, as well as motivation gained from witnessing diabetes-related complications in others

Conclusion

SOC appeared to shape how participants understood, managed and found meaning in living with diabetes. Odajima and Sumi (2018) found that "a high SOC was related to a low PAID score and to having HbA1c under control." We recommend incorporating SOC-strengthening strategies into diabetes care and investigating the relationship between SOC, self-management and HbA1c in Trinidad and Tobago.

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Acknowledgments

We would like to extend our sincere thanks to the staff of the Diabetes Association of Trinidad and Tobago, the participants who generously contributed to this study, and our supervisor, Dr. Shalini Pooransingh, for their unwavering support, guidance, and encouragement throughout this project

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P10: Sex-Specific Anxiolytic Effects Of S. jamaicensis (Vervain) Extract On Adult Zebrafish As Evident In Behavioural Assays

Tishora Mungroo, Keianna Narcis, Jada- Marie Nixon, Todd Narad, Kalyani Mungal, Amanda Nanan, Maria Ramirez, John Ramcharitar

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Abstract

Anxiety disorders present a global burden, driving interest in accessible botanical alternatives like *S. jamaicensis* (Vervain). This study evaluated the sex-specific anxiolytic effects of *S. jamaicensis* methanolic extract in adult zebrafish (Danio rerio, N=120) using the Novel Tank Test (NTT) and Mirror Biting Test (MBT). At 1.8 g/L in the NTT, males exhibited significant anxiolytic behavior, with decreased bottom dwelling (p=0.007) and increased center exploration (p=0.006). Conversely, females showed sedative-like responses, increased bottom dwelling (p=0.003) and reduced center exploration (p=0.003). In the MBT, males treated with 1.2 g/L spent significantly less time in the mirror zone (p=0.002). These findings demonstrate that *S. jamaicensis* exerts potent, sex-dependent anxiolytic activity, validating its traditional use while emphasizing sex-based differences in preclinical drug discovery.

Introduction

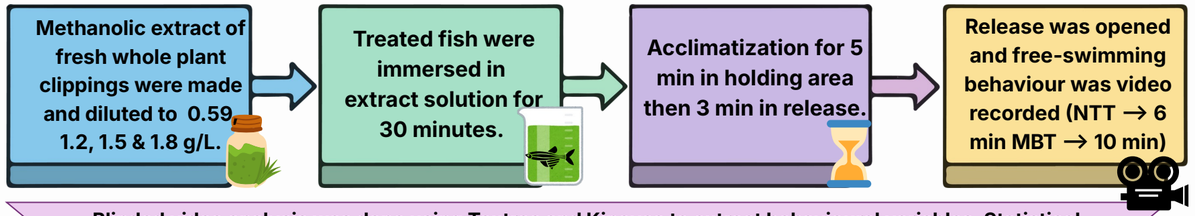
Anxiety disorders are among the most common mental health conditions worldwide, impairing health and daily functioning. Current treatments such as benzodiazepines, SSRIs, and CBT are effective but limited by side effects, cost, and accessibility, prompting interest in new alternatives.

S. jamaicensis, traditionally used in the Caribbean for stress relief, contains flavonoids and glycosides that may modulate GABAergic pathways and produce anxiolysis. If validated, it offers a cost-effective, accessible, locally relevant therapy while zebrafish (Danio rerio) provide a validated, translational model for anxiety-like behaviors.

This study investigates the sex-specific anxiolytic effects of *S. jamaicensis* extract using the Novel Tank Test (NTT) and Mirror Biting Test (MBT).

Methodology

A confirmatory preclinical study using stratified random sampling based on sex (6 conditions per sex, n=10, N= 120) done at the physiology research lab, UWI sta, Mt. Hope campus. Fish showing abnormal swimming behaviour or erratic movement before testing were excluded. **Ref: CREC-SA3603/11/2025**



Blinded video analysis was done using Toxtrac and Kinovea to extract behavioural variables. Statistical Analysis utilized SPSS (One way Anova, Independent T test and Mann Whitney U test -MBT One way ANOVA and Kruskal-Wallis test -NTT)

Results

NTT

Figure 1: A illustrates at 1.8 g/L **males** showed **decreased bottom dwelling** *(H(2) = 9.90, p = 0.007)* while **females** showed **increased bottom dwelling** *(H(2) = 11.51, p = 0.003)*.

Figure 1: B illustrates at 1.8 g/L **males** showed **increased center exploration** *(H(2) = 10.09, p = 0.006)* while **females** had **decreased center exploration** *(H(2) = 11.56, p = 0.003)*

MBT

Figure 1: C showed at 1.2 g/L **males** showed reduced **mirror zone time.** ($F(3,36)= 2.315$, $p= 0.002$, $\eta^2 = 0.343$)

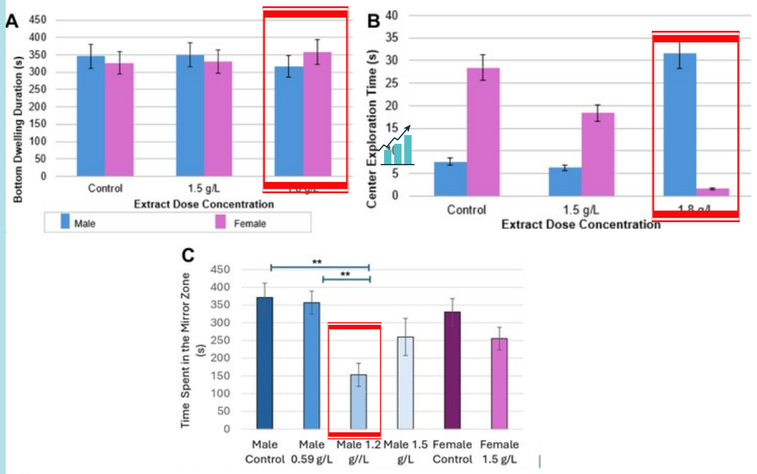


Figure 1 showing the behavioural effects of *S. jamaicensis* extract on **A** - bottom dwelling in NTT, **B**- center exploration in NTT and **C**- mirror zone time in MBT

Discussion

MBT: Male-specific effects at 1.2 g/L suggest possible anxiolysis, but the lack of a clear dose-response may reflect the influence of aggression and social behaviour on MBT outcomes[4] .

NTT: Findings suggest clearer anxiolytic-like activity, while reduced activity in females indicate hyper -anxiolysis or sedation [1][3].

Sex & dose: Differences between male and female may reflect variation in metabolism or sensitivity to the plant's bioactive compounds. Flavonoid found in medicinal plants may influence $GABA_A$ receptors, which could contribute to CNS effects[2] .

Limitations: Only acute effects studied thus further investigation on chronic treatment is warranted.

Conclusion

S. jamaicensis extract displays significant, sex-dependent anxiolytic activity, most prominently at 1.8 g/L in NTT & 1.2 g/L in MBT supporting the traditional use of *S. jamaicensis* as a natural anxiolytic agent.

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TRINIDAD AND TOBAGO MEDICAL ASSOCIATION
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A Diagnostic Dilemma: Secondary Haemophagocytic Lymphohistiocytosis in a 17-Year-Old with Severe Dengue and a High Hscore: A Case Report

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Abstract

Secondary haemophagocytic lymphohistiocytosis (HLH) is a rare, life-threatening hyperinflammatory complication of dengue infection. Diagnosis is challenging because severe dengue and HLH share clinical and laboratory features. We report a 17-year-old-male with severe dengue who developed persistent fever and progressive cytopenias despite improvement in organ dysfunction. Despite the fact that only four (4) of the HLH-2004 diagnostic criteria were fulfilled, a Hscore of 208 indicated an 88-93% probability of HLH. Treatment with intravenous immunoglobulin (IVIG) resulted in rapid clinical and haematological improvement.

Introduction

Dengue infection ranges from a self-limiting febrile illness to severe diseases characterized by plasma leakage, bleeding and multiorgan dysfunction. Rarely, dengue can trigger secondary HLH, a hyperinflammatory syndrome caused by uncontrolled immune dysregulation.

Diagnosis is particularly difficult because both conditions may cause fever, cytopenias, hepatosplenomegaly and organ dysfunction. Distinguishing the two conditions is therefore challenging. Early recognition of atypical dengue course is essential because untreated HLH can progress rapidly.

Methodology

A 17-year-old male with no significant medical history presented after one week of fever with acute confusion, vomiting, gingival bleeding and petechiae. Examination and imaging revealed hepatosplenomegaly and bilateral pleural effusions. Dengue IgM and IgG were positive. Clinical progression, serial investigations, HLH-2004 criteria and the Hscore were used to evaluate suspected secondary HLH. Informed consent for publication was obtained from patient's legal guardian.

Results

Initial investigations demonstrated severe multiorgan involvement with creatinine 4.7mg/dL and ALT 2025.4 IU/L. Despite improving renal and hepatic function, persistent fever and worsening bicytopenia developed. Haemoglobin fell to 7.9g/dL, platelets to 70 x 10^3/µL and ferritin reached 42,382 µg/L.

Only 4/8 HLH-2004 criteria were fulfilled: fever, splenomegaly, bicytopenia and hyperferritinaemia. Bone marrow aspiration was technically unsuccessful due to a large body habitus. However, an Hscore of 208 indicated an estimated 88-93% probability of Secondary HLH.

Empirical IVIG 30g daily for three days was initiated. Fever resolved and platelet count improved rapidly reaching 203 x 10^3 /µL on day 7. The patient was clinically stable and transferred from the ICU on Day 8 post admission.

Discussion

Severe dengue and HLH share several clinical features making conventional diagnostic criteria difficult to apply. Failure to meet five (5) HLH-2004 criteria should therefore be interpreted alongside the overall clinical trajectory. In this case, extreme hyperferritinaemia, persistent fever and progressive cytopenias despite improvement of other organ dysfunction raised a suspicion of HLH. The Hscore provided additional quantitative support for early treatment when formal confirmation was limited.

Conclusion

Secondary HLH should be considered in severe dengue with persistent fever, unexplained cytopenias and marked hyperferritinaemia. The Hscore may provide valuable diagnostic support when HLH-2004 cannot be fully assessed facilitating timely immunomodulatory treatment.

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TRINIDAD AND TOBAGO MEDICAL ASSOCIATION
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To assess the prevalence of depression and anxiety in persons with Systemic Lupus Erythematosus who are registered members of the Lupus Society of Trinidad and Tobago.

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Abstract

Research on the incidence of depression and anxiety among persons diagnosed with SLE in Trinidad and Tobago is lacking. This was a cross sectional study using convenience sampling, where persons from the Lupus Society of Trinidad and Tobago were screened for depression and anxiety using the Hospital Anxiety and Depression Scale (HADS). Of the 157 respondents, the point prevalence of anxiety was 42%, and of depression was 31.2%. This highlights a need for screening strategies to detect symptoms and provide appropriate intervention.

Introduction

Individuals with SLE experience elevated levels of depression and anxiety, which significantly diminish their quality of life. Meta analyses revealed prevalence of major depression was 24% and anxiety was 37%. This study aims to add to the literature of mental illness in persons with this autoimmune condition in the Caribbean. Healthcare workers need to look for depression and anxiety to optimize their patients' total biopsychosocial care. The negative outcomes associated with depression and anxiety in persons with SLE can be improved with the routine use of simple screening tools to identify persons. Routine screening for these mental disorders is not done in rheumatological clinics.

Methodology

This was a cross sectional study using convenience sampling, where persons from the Lupus Society of Trinidad and Tobago were screened for depression and anxiety using the Hospital Anxiety and Depression Scale (HADS) from 04.03/23 to the 13.06.23 on persons over the age of 18, with a confirmed diagnosis of SLE. Descriptive methods and inferential methods, together with multivariate regression methods were used to analyse the data. Ethical approval was obtained from the lupus society of Trinidad and Tobago and the University of the West Indies.

Results

There was a higher prevalence of anxiety and depression in younger persons, single relationship status, lower income, recent diagnosis, greater disease activity, the presence of rashes and the use certain medication

The point prevalence of anxiety was 42% (95% CI: 34.2%-50.2%), with 17.2% (95% CI: 11.7%-24.0%) having mild symptoms, 14% (95% CI: 9.0%-20.4%) with moderate symptoms, and 10.8% (95% CI: 6.4%-16.8%) had severe symptoms of anxiety.

The point prevalence of depression was 31.2% (95% CI: 24.1%-39.1%), with 15.9% (95% CI: 10.6%-22.6%) having mild symptoms, 8.9% (95% CI: 5.0%-14.5%) with moderate symptoms, and 6.4% (95% CI: 3.1%-11.4%) had severe symptoms of depression.

More than one quarter of the patients in this study (n = 40, 25.5%) were at risk of both anxiety disorder and depressive syndrome ($p < 0.001$), 26 (16.6%) presented symptoms of anxiety but not depression, while 9 (5.7%) presented symptoms of depression but not anxiety,

Discussion

This study showed the point prevalence of anxiety was higher than other studies(unlike other studies) and in this population, it was more common than depression. Differences in prevalence across studies may reflect variations in study populations, screening instruments and contextual factors, including the potential psychological impact of the COVID-19 pandemic.

Younger age, mixed ethnicity, single or separated marital status and lower household income were associated with greater psychological distress. Anxiety and depression were also associated with disease related factors, including pain, fatigue, sleep disturbances, disease flares, cutaneous manifestations and work disability. These findings highlight the interplay between the physical, psychological and socioeconomic consequences of SLE. Medication use, particularly corticosteroids and other immunomodulatory agents, was also associated with psychological symptoms; however, the cross-sectional design prevents determining whether these associations reflect medication effects, disease severity or other contributing factors.

Conclusion

Individuals affected by SLE greatly benefit from a range of essential support systems,practical aid tailored to address fatigue, pain, and physical limitations,Individuals may also require financial support, guidance in accessing disability benefits and potential workplace adjustments. These various forms of support play a vital role in helping SLE patients manage their condition and improve their overall well being.

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TRINIDAD AND TOBAGO MEDICAL ASSOCIATION
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Sustainable Development Goal 3: A review and comparative analysis of the challenges of healthcare delivery systems in Nigeria, Trinidad and Tobago, and the United States.

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Abstract

Global progress on SDG 3 is uneven, with implications for global health security. We conducted a systematic review and examined Nigeria, Trinidad and Tobago (T&T), and the United States (U.S.). The challenges identified include adverse economic and political conditions in Nigeria, inadequate healthcare financing in T&T, and incomplete healthcare coverage in the U.S. These are man-made challenges; the social determinants of health and equity must be addressed.

Introduction

SDG 3 is one of the seventeen SDGs adopted by world leaders in 2015. We examined and compared healthcare delivery challenges in: Nigeria, a low/middle-income country in Sub-Saharan Africa, with a population of 243million; T&T, a high-income small island developing state in the West Indies, with a population of 1.5 million; and the U.S., a high-income superpower located in North America, with a population of 343 million. The theory of change was employed to make recommendations to address these challenges.

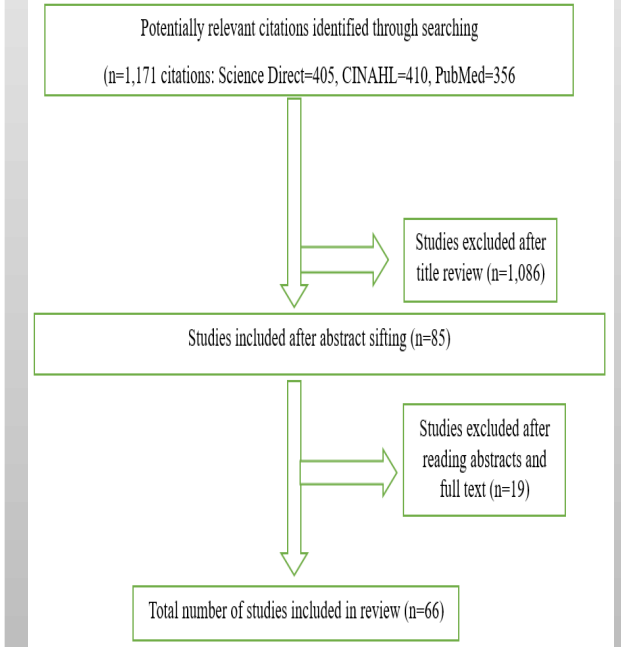
Methodology

Study design: Systematic review [PRISMA, 2020]. Search strategy: Electronic databases of PubMed, Cumulative Index of Nursing and Allied Health Literature (CINAHL) and Science Direct in 2025.

Articles published in English language and in peer-reviewed scientific journals were included. Thematic analysis was performed. Waiver of Ethics Review was granted by the UWI Campus Research Ethics Committee.

Results

Figure 1: Flowchart highlighting the results of the literature search.



Major categories of healthcare challenges:

Nigeria

- Poor infrastructure; Poor workers welfare; Poor access to healthcare services; Adverse economic and political conditions.

Trinidad and Tobago

- Social inequality; Inadequate healthcare financing; Sometimes less than desirable healthcare personnel attitudes; Long wait times at public healthcare facilities.

United States

- Incomplete healthcare coverage for the citizenry; High per person health expenditure, Unequal distribution of resources; Failure of some states to expand Medicaid.

Discussion

Most of challenges highlighted are the result of man-made policies and practices. These result in unequal distribution of money, power, and social inequalities. The social determinants of health and equity must be addressed.

Limitations: Study was limited only to articles published in English Language. Some of the challenges were not countrywide. Quality of the primary studies synthesized could have affected the evidence presented.

Conclusion

The WHO opines that healthcare is a fundamental human right and a matter of social justice. Through the lens of the theory of change, there must be adequate representation of all groups in decision making, good governance, accountability, universal health coverage, and judicious use of public funds. 2030 is just around the corner.

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TRINIDAD AND TOBAGO MEDICAL ASSOCIATION
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Urinary Retention Among Nursing Students During Clinical Clerkships: Prevalence and Contributing Factors - A Cross Sectional Study

E. Daniel, D. Millington, A. Ramnath, A. Rivers , D. Ferret , K. Seales , K. Kunjal , T. Laptiste , Y. Padia1, G. Ramnanansingh

Abstract

Nursing students have adopted unhealthy voiding habits to cope with clinical workload. A cross-sectional study design was used to determine the prevalence of self-reported urinary retention symptoms among UWI senior nursing students during clinical clerkship and individual, clinical, and environmental factors associated with these symptoms. Straining while voiding, a high concern for urinary health, lack of clinical support and staff bathrooms were found to influence urine retention symptoms compared to other factors studied. Finally, less than 5% of students that admitted to experiencing urine retention symptoms sought formal medical treatment, potentially signaling an issue in student nurses seeking medical help when ill.

Introduction

Student nurses risk urinary dysfunction, from as young as 27 years, due to long term adoption of unhealthy voiding habits. Over time practices such as delayed voiding erode urinary health. Dysfunction in this area jeopardizes a student nurse's ability to consistently perform nursing duties. As the future of nursing rests on their shoulders, preserving student nurse health is imperative. Unfortunately, there is a gap in existing literature on this phenomenon specific to Trinidad and Tobago. Therefore this group sought to achieve the following in the country's context:

1. To determine the prevalence of urinary retention among nursing students during clinical clerkships.
2. To identify individual factors (e.g., hydration practices, voiding habits, knowledge, and attitudes) associated with urinary retention.
3. To examine clinical and environmental factors (e.g., workload, shift length, availability of restroom facilities, and supervision) contributing to urinary retention.

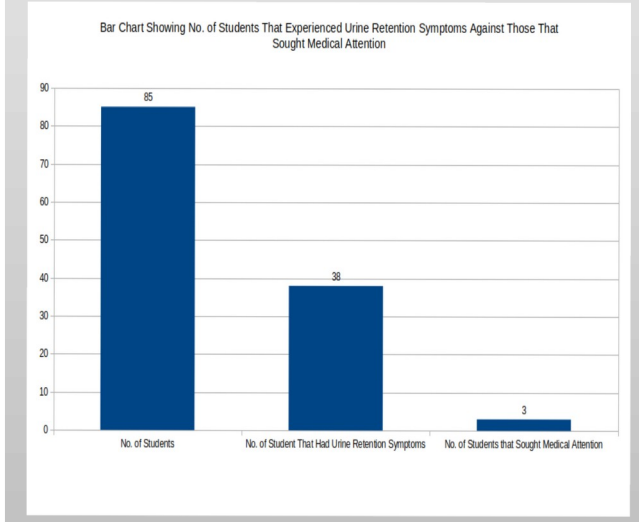
Methodology

A cross-sectional study was conducted among third and fourth year nursing students enrolled at the University of the West Indies (St. Augustine) School of Nursing (UWISON). Questionnaires were shared to 85 students, despite aims for 112, to assess urinary symptoms, hydration, voiding habits, urinary health attitudes, workload, shift length, restroom conditions, and clinical support during clerkship. Refusal to fill out surveys and data collection being restricted to school compound while study populations were in clinical rotation, were the main limiting factors to recruiting 112 students. Data collected were of the nominal and ordinal levels, therefore, measures of central tendency, prevalence calculations, and multiple non-parametric tests (Fisher's exact tests, and multivariable binary logistic regressions) were used to analyze them in the Jamovi programme. Data for this research project was collected at the UWISoN campus, Couva Multi-Training Facility. As approved by the UWI Ethics Committee on 17/05/26.

Results

Main Findings

- Students that strained while voiding had higher odds of reporting symptoms than those who did not (OR = 10.20, 95% CI 1.17–89.02, p = 0.036).
- Students concerned about their urinary health had higher odds of reporting symptoms (OR = 5.63, 95% CI 1.69–18.74, p = 0.005).
- areas with higher ratings for staff bathroom cleanliness had lower odds of students reporting symptoms compared to those students reported as dirty (OR = 0.34, 95% CI 0.12–0.96, p = 0.042)
- staff support was significantly associated with participants experiencing no urge to void but leaked urine (Fisher Exact Test = 0.002)
- 44.7% reported urinary retention symptoms during clinical clerkships, while 3.5% reported a formal diagnosis (As shown in Figure 1: Bar Chart Showing No. of Students That Experienced Urine Retention Symptoms Against Those That Sought Medical Attention)



Discussion

Results opposed previous studies' findings, suggesting that former significant associations found in older studies were influenced by the age of the populations studied. Psychological factors exerted more pronounced influence than clinical/environmental factors, as participants who expressed concern regarding their urinary health were significantly more likely to report symptoms. Although, 44.7% of participants reported experiencing urinary retention, only 3.5% were formally diagnosed. This discrepancy suggests that student nurses may not be receiving the medical attention needed to maintain optimal health, a possibility that should alarm all stakeholders involved in their education and future employment.

Limitations: failed to reach 112 participant target, limited access to data collection site and participants, and difficulty tracking group member quota for surveys collected

Conclusion

Educational institutions must be more active in discouraging the identified behaviors among senior student nurses. Additionally, clinical staff and institutions must be reminded of the role they play in maintaining student nurse health. Finally, more inquiries are needed to identify barriers to student nurses seeking medical aid when experiencing symptoms.

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TRINIDAD AND TOBAGO MEDICAL ASSOCIATION
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P16 When Treatment Turns Dangerous: A Case of Carbimazole-Induced Agranulocytosis

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Abstract

A 20-year-old woman developed profound neutropenic sepsis after two months of carbimazole therapy.

Discontinuing carbimazole without an alternative route to thyroid control risked uncontrolled thyrotoxicosis.

Multidisciplinary care using G-CSF, corticosteroids, and Lugol's iodine enabled a safe total thyroidectomy despite significant resource constraints.

Introduction

Carbimazole-induced agranulocytosis [1]

Incidence	Mortality
0.1- 0.6%	21.5%

Alternate thioamides → cross-reactivity risk: 15.2% [2].

This case: Management of **neutropenic sepsis** and **thyrotoxicosis** along with definitive thyroid treatment without access to radioactive iodine (RAI).

Case Presentation

A 20-year-old hyperthyroid female on carbimazole for 2 months

⚠️ Fever & sore throat. Pulse: 132bpm, Temperature: 38.2 °C

- WCC: **1.2x10⁹/L**
- Absolute neutrophil count (ANC): **0.08x10⁹/L** (2-7)
- Anti-TG Abs normal
- Anti-TPO Abs: 251 IU/mL (< 34)

Diagnosis: Acute pharyngitis in the setting of carbimazole-induced agranulocytosis.

Clinical Course

Agranulocytosis– Sepsis Management:

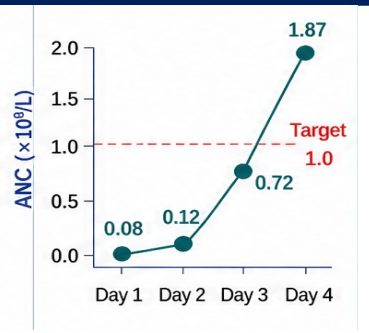
1. Carbimazole discontinued
2. Barrier Nursing
3. Piperacillin-Tazobactam 4.5 g q6hrly
4. Granulocyte Colony Stimulating Factor

Thyrotoxicosis Management:

5. Dexamethasone 2mg iv q6hrly
6. Propranolol 20mg tds (continued)
7. Lugol's Iodine 2% 0.5ml tds

Long-Term Management:

8. Total Thyroidectomy (on D10 Lugol's)
9. Thyroxine and Endocrine OPC for f/u



Graph showing: ANC recovery with G-CSF

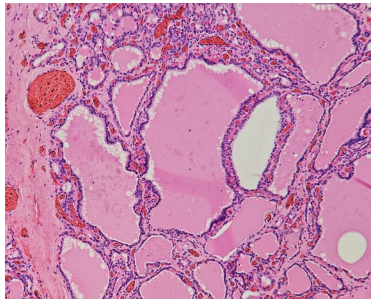


Figure showing: Hypercellular thyroid with large follicles with scalloped margins, in keeping with Graves' disease

Discussion

G-CSF: ANC recovery

Glucocorticoids & Lugol's Iodine: preoperative thyroid control (latter via Wolff-Chaikoff effect)

ATA recommendations:

Thioamides contraindicated → RAI (*preferred*) → surgery (*acceptable*) [3].

× RAI unavailable in public healthcare system at the time → surgery performed.

Conclusion

✓ Starting carbimazole → monitor CBC within first 3 months.

✓ Agranulocytosis on carbimazole → risk of cross-reactivity with other antithyroid drugs → consider definitive therapy.

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TRINIDAD AND TOBAGO MEDICAL ASSOCIATION

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AWARENESS AND BARRIERS TO DIABETIC RETINOPATHY SCREENING AMONG ADULTS (18 AND OVER) WITH DIABETES IN TRINIDAD AND TOBAGO

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Abstract

Diabetic retinopathy (DR) causes preventable blindness, yet local data on awareness and screening barriers are limited. This study surveyed 412 diabetic adults (≥18) in Trinidad and Tobago. Awareness was high (69.7%), but only 32.0% had been screened in the past year. Cost, wait times, and referral status were key barriers. Awareness alone is not enough to drive screening uptake.

Introduction

Diabetic retinopathy is a leading cause of preventable vision loss among people with diabetes, with the Latin America/Caribbean region bearing the highest burden of DR-related blindness globally [1]. Locally, the National Eye Survey of Trinidad and Tobago found DR accounted for 19.1% of blindness among adults over 40 [4]. Despite the value of regular screening [2], local data on awareness and barriers remain limited.

Methodology

- Cross-sectional study at DATT events and the UWI Optometry Clinic (Feb–May 2026)
- Adults ≥18 with Type 1 or 2 diabetes, convenience sampling
- 425 recruited; 412 analysed (96.9% completion)
- Structured self-administered questionnaire; SPSS v26 — Chi-square, Mann-Whitney U, Kruskal-Wallis, Spearman, logistic regression
- Approved by UWI Research Ethics Committee; informed consent, anonymous

Results

Mean DR awareness score: 8.38/11 (SD = 2.24); 69.7% had high awareness

Only 32.0% screened within the past 12 months (95% CI: 27.5–36.5%), though 66.0% had ever been screened

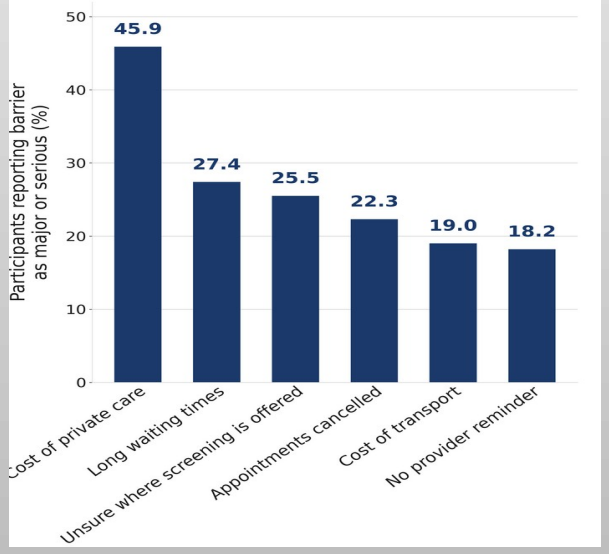
Top barriers: cost of private care (45.9%), long waiting times (27.4%), unsure where screening offered (25.5%)

Screening significantly associated with employment status ($p = 0.019$), referral ($p < 0.001$), and awareness level ($p < 0.001$)

Referred participants: 42.2% screened vs. 17.6% of non-referred ($\chi^2 = 28.496$, $p < 0.001$)

Self-employed participants had higher odds of screening than employed (AOR = 2.88, $p = 0.015$)

Figure 1. Top Barriers to DR Screening (N=412)



Discussion

- High awareness did not translate into high screening uptake, consistent with Singh et al. [3]
- Referral for eye exams was the strongest predictor of screening
- Cost and access barriers outweighed awareness in driving behaviour, consistent with Chukwukaodinaka et al.[5]
- Limitations: cross-sectional design, convenience sampling, self-reported data

Conclusion

Awareness of DR was high, but screening attendance remained low. Strengthening referral practices and reducing access barriers are needed to improve uptake and prevent vision loss.

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TRINIDAD AND TOBAGO MEDICAL ASSOCIATION
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Validation of an Overcrowding Assessment Tool (NEDOCS) in a Rural Emergency Department

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Abstract

Emergency department (ED) overcrowding is a critical global challenge, yet objective tools are rarely validated in resource-limited Caribbean settings. Over three months, the National Emergency Department Overcrowding Score (NEDOCS) was compared with a clinician gold standard at 150 time-points. NEDOCS correlated strongly ($r = 0.74$, $p < 0.001$) and is a valid real-time measure of overcrowding in this setting.

Introduction

ED overcrowding delays care and threatens patient safety.

- **Background:** NEDOCS converts ED occupancy, boarding, ventilated patients and waiting times into a 0–200 score with six levels [1].
- **Gap:** derived in US academic centres; rarely validated in Caribbean EDs.
- **Aim:** to validate NEDOCS against a clinician gold standard in a rural Trinidad ED.

Methodology

- **Design and setting:** prospective observational study over three months, Emergency Department, Sangre Grande Hospital.
- **NEDOCS:** calculated from real-time operational data collected daily.
- **Gold standard:** simultaneous overcrowding ratings by senior physicians, charge nurses and quality control coordinators.
- **Analysis:** Pearson's correlation (r) between NEDOCS and clinician scores.

Results

150 discrete time-points were analysed.

- **Correlation:** strong positive correlation with the clinician gold standard ($r = 0.74$, $p < 0.001$).
- **Agreement:** Levels 4 (Overcrowded) and 5 (Severely Overcrowded) matched clinician perception in 82% of instances (Figure 1).
- **Divergence:** with ventilated patients boarding, clinician Gold Scores escalated faster than the NEDOCS category.
- **Staff groups:** nursing and physician scores did not differ ($p = 0.42$), showing unified awareness of surge capacity.

Overall correlation with clinician gold standard: **r = 0.74** ($p < 0.001$)

6	Dangerously overcrowded Score 181–200	
5	Severely overcrowded Score 141–180	**82%** agreement
4	Overcrowded Score 101–140	
3	Extremely busy Score 61–100	
2	Busy Score 21–60	
1	Not busy Score 0–20	

Figure 1. NEDOCS crowding levels [1] and agreement with the clinician gold standard.

Discussion

Correlation was stronger than in a Colombian ED ($\rho = 0.58$) [2].

- Ventilated patients add only 13.4 points each [1], so clinician strain may outpace the score.
- **Limitations:** single centre; subjective gold standard.

Conclusion

NEDOCS is a valid, reliable real-time measure of overcrowding in this setting. Boarding weightings should be recalibrated to reflect frontline strain.

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19: Colorectal Cancer: Are We Meeting Surgical Standards?

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Abstract

World Health Organization (WHO) statistics show that Caribbean nations have an intermediate incidence of CRC, but very high cancer-related mortality [1]. There is a desperate need to improve cancer-related mortality. In this paper, we discuss evidence-based CRC treatment standards, to determine whether there are any areas in need of improvement.

Introduction

Caribbean centers can only improve once their deficiencies are defined, but there is limited data from Caribbean centers on CRC treatment standards.

Methodology

We reviewed Caribbean data to identify region-specific outcomes and compared with international data in 4 areas:

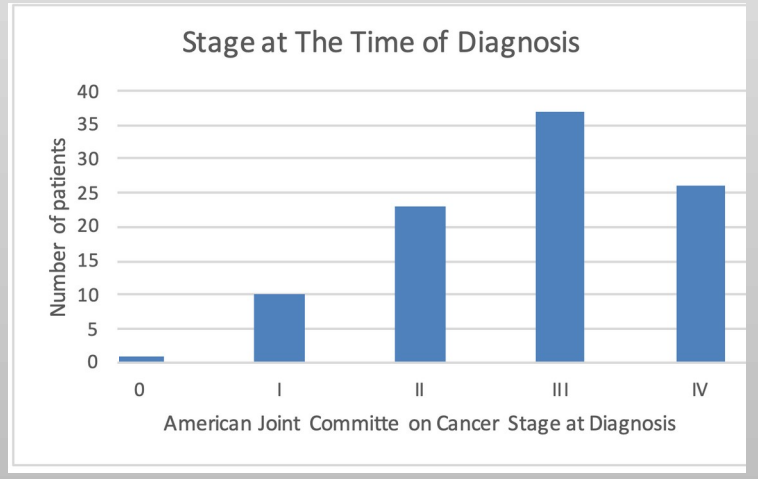
1. Colorectal cancer screening
2. Laparoscopic treatment of primary
3. Treatment of metastatic disease
4. Employment of therapeutic adjuncts

Results

Parameter	Current Standard of Care	Caribbean Data
1. Screening	NCCN: Recommends CRC screening at 40 Yrs	No Caribbean nation has a national screening program
2. Tx of primary	Minimally invasive surgery + Fast Track Protocols	Practiced in 8 Caribbean nations, but not universally available
3. Metastases	Liver / lung resections have superior outcomes vs chemoRx	Available in 6 Caribbean nations, but grossly under-utilized
4. Tx adjuncts	Ablative therapies have superior outcomes vs chemoRx	Available in 4 Caribbean nations, but grossly under-utilized

Implementation of CRC screening is low-hanging fruit. This is the only modality that may improve outcomes without major surgery, systemic chemotherapy.

Figure 1 demonstrates that more than 50% of Caribbean diagnosis are made when there is advanced stage CRC



Discussion

This review was limited by the paucity of Caribbean data.

However, based on published Caribbean data, there are many areas in need of improvement in the region.

It was also apparent that many services that are available in the region and under-utilized.

Conclusion

There are many areas in need of improvement, but implementation of a national screening program would have the most meaningful and cost-effective impact.

References

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Two siblings with X-linked agammaglobulinaemia

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Abstract

This case report describes X-linked agammaglobulinaemia (XLA) in two Caribbean male siblings, emphasizing diagnostic delays and cost barriers. Sibling A (age 6) presented with bilateral pneumonia, meningitis and recurrent respiratory infections; testing showed panhypogammaglobulinaemia (IgG 0 mg/dL), absent B cells, bronchiectasis and a BTK mutation. Sibling B (age 5) had recurrent otitis media and abscesses, with absent B cells supporting a presumptive XLA diagnosis due to genetic testing costs. Both started immunoglobulin replacement and antibiotic prophylaxis. Care fragmentation delayed diagnosis the need for high clinical suspicion to ensure early treatment.

Introduction

- X-linked agammaglobulinaemia is a rare inborn error of immunity caused by mutations in the BTK gene.
- Impaired B-cell development and reduced immunoglobulins affect males and present in early childhood with recurrent respiratory and gastrointestinal infections.
- Long-term immunoglobulin replacement and prompt antibiotics reduce infection frequency, prevent complications and lower morbidity and mortality.

Methodology

- Retrospective case review of two male siblings with suspected XLA.
- Data collected: clinical history, laboratory results, imaging and genetic testing (where available).
- **Analysis:** comparison of immunological profiles and clinical features.
- **Ethics:** approval and consent obtained.

Results

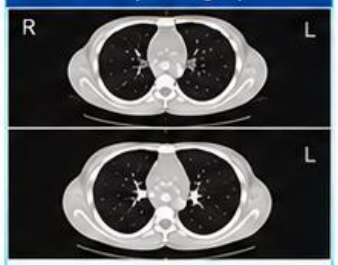
Parameter	Sibling A (Age 6)	Sibling B (Age 5)
IgG (mg/dL)	0	519 (700–1600)
IgA (mg/dL)	0	0 (53–204)
IgM (mg/dL)	11 (15–188)	10 (15–188)
B cells (flow cytometry)	**Absent**	**Absent**
T cells / NK cells	Normal	↑ T cells / Normal NK
Genetic testing	BTK mutation (XLA)	Not done (cost prohibitive)

Chest X-ray (Sibling A)



Bilateral middle lobe pneumonia with chronic changes.

CT Chest (Sibling A)



Bronchiectasis in both lower lobes.

Management



Immunoglobulin replacement therapy (for both siblings)

+



Co-trimoxazole prophylaxis (for Sibling A)

Discussion

- X-linked agammaglobulinaemia is rare, affecting 1 in 100,000 to 1 in 200,000 live births.
- Diagnostic challenges include care across multiple institutions, recurrent infections treated as isolated events, incomplete records, low clinical suspicion, limited access to specialist immunology services and the cost of genetic testing.
- In Sibling A, this delay was associated with established bronchiectasis, illustrating how untreated antibody deficiency can progress to irreversible end-organ damage.
- Before antibiotics and immunoglobulin therapy, affected children died before adolescence. Appropriate treatment reduces infections and helps prevent chronic sinus and lung disease. Patients now generally live to adulthood with a good quality of life if treatment is maintained.

Conclusion

- XLA is a rare primary immunodeficiency in the Caribbean. Limited diagnostic availability and high testing costs lead to missed diagnoses. A high index of clinical suspicion and thorough history-taking are essential for early identification and timely management.

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