93.3% accuracy with automated triage. When integrated, modelling suggests the framework could reduce major complications by approximately 20–30% and unnecessary referrals by up to 35%. The system runs automatically upon opening the patient record, requiring no extra clinician steps.

CONCLUSION

Synergizing AI with clinicians' expertise offers a scalable solution for Malaysian primary health clinics. A 12-month national pilot is recommended to generate real-world evidence and inform the National AI Action Plan 2026–2030.

EP_A027

PREVALENCE OF DIABETIC PERIPHERAL NEUROPATHY AND ITS ASSOCIATION WITH SERUM NEURON-SPECIFIC ENOLASE AMONG TYPE 2 DIABETES MELLITUS PATIENTS

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INTRODUCTION

Diabetic peripheral neuropathy (DPN) is a common complication of type 2 diabetes mellitus (T2DM), with nerve conduction studies recognized as the diagnostic gold standard. Serum neuron-specific enolase (NSE) has been linked with DPN. This study aims to determine the prevalence of DPN among T2DM patients, evaluate clinical characteristics, and explore the relationship between NSE and DPN.

METHODOLOGY

A cross-sectional study was conducted at Universiti Teknologi MARA Specialist Centre Sungai Buloh and Hospital Al-Sultan Abdullah, involving patients aged 18–60 years, diagnosed with T2DM for more than 5 years (n = 132). All participants underwent anthropometric measurement, completed the Michigan Neuropathy Screening Instrument evaluation, and biochemical parameters, including lipid profile, hemoglobin A1c, and serum creatine and NSE. The diagnosis of DPN was made based on positive NCS findings. Logistic regression was used to identify factors associated with DPN.

RESULTS

The study population had a mean age of 60.16 ± 10.28 years and a mean duration of diabetes of 14.82 ± 6.66 years. The prevalence of DPN was 51.5% (n = 68). Serum NSE levels were significantly higher (p = 0.003) and independently associated with the presence of DPN (adjusted odds ratio [OR] 1.033, 95% confidence interval [CI] 1.009–1.058, p = 0.006). Participants with DPN were also more likely to be on insulin therapy (p = 0.040). In addition, retinopathy (adjusted OR 3.567, 95% CI 1.528–8.329, p = 0.013) and elevated Urine Albumin-to-Creatinine Ratio levels indicating albuminuria (adjusted OR 1.031, 95% CI 1.002–1.061, p = 0.037) were significantly associated with DPN.

CONCLUSION

More than half of the study population had DPN, which was significantly associated with both retinopathy and nephropathy, as well as with elevated serum NSE. This emphasizes the importance of early screening and highlights the role of NSE as a surrogate marker for neuropathy in diabetes.

EP_A028

RECURRENT DIABETIC KETOACIDOSIS: PREDICTORS AND CLINICAL OUTCOMES IN A 24-YEAR RETROSPECTIVE COHORT

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INTRODUCTION

Diabetic ketoacidosis (DKA) is a life-threatening complication associated with significant morbidity and healthcare burden. Despite advances in diabetes care, recurrent DKA remains common, often reflecting gaps in treatment adherence and patient education. Identifying predictors of recurrence is crucial for risk stratification and targeted intervention.

METHODOLOGY

We conducted a retrospective observational study of all adult DKA admissions to a tertiary centre between 2001 and 2025. Electronic medical records were reviewed for demographic data, biochemical parameters, precipitating factors, and clinical outcomes. DKA was defined using standard biochemical criteria. Recurrent DKA was defined as

≥2 admissions during the study period. Factors associated with recurrent DKA admissions were analyzed. Patients under the age of 18 years and those with missing vital information were excluded.

RESULTS

A total of 667 DKA admissions, comprising 566 patients, were identified, of which 101 admissions (15.1%) were recurrent, involving 65 patients. Among recurrent DKA episodes, the most common precipitating factors were infection (64.4%) and insulin omission (62.4%). After multivariate analyses, patients with type 1 diabetes mellitus (T1DM) were more likely to develop recurrent DKA compared to those with type 2 diabetes mellitus (aOR 4.16; 95% confidence interval [CI] 2.58–6.70; p <0.001). Insulin omission was strongly associated with recurrent DKA (aOR 2.29; 95% CI 1.46–3.60; p <0.001). In contrast, baseline glycated hemoglobin and chronic kidney disease were not significantly associated with recurrence. Diabetic counseling during the first DKA admission did not reduce recurrent DKA. There were no significant differences in mortality (3.9% vs 6.2%, p = 0.524) or critical care admission rates (40.6% vs 38.7%, p = 0.718) between recurrent and first DKA episodes.

CONCLUSION

Recurrent DKA accounts for a substantial proportion of DKA admissions and is strongly associated with insulin omission and T1DM. Our findings suggest that recurrent DKA is driven predominantly by behavioral and adherence-related factors, indicating the need for multidisciplinary interventions beyond standard inpatient counseling.

EP_A029

CLINICAL UTILITY OF MODIFIED ASIAN FINDRISC AND RANDOM CAPILLARY BLOOD GLUCOSE FOR THE DETECTION OF DYSGLYCEMIA IN THE ADULT POPULATION

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INTRODUCTION

Type 2 diabetes mellitus is a major healthcare problem worldwide, yet high percentage of patients are undiagnosed. There is a dire need for effective screening strategies. We examine the use of modified Asian FINDRISC (M-FINDRISC) and POCT random capillary blood glucose (rCBG) for the detection of dysglycemia.

METHODOLOGY

This cross-sectional, observational study included 151 adults aged ≥30 years without a prior history of diabetes in healthcare and community settings. Hemoglobin A1c of ≥6.3% was used for the diagnosis of diabetes, and 5.7–6.2% for prediabetes. Areas under the receiver operating curve (ROC-AUC) for M-FINDRISC were analyzed. The sensitivity and specificity of the combined use of M-FINDRISC and rCBG for the detection of dysglycemia were evaluated.

RESULTS

The mean age of the participants was 44.6 ± 11.0 years. They had high body mass index (27.8 ± 4.9 kg/m²). Most were sedentary (only 25.2% reported physical activities of ≥30 min/day). A total of 52.3% had first-degree relatives with diabetes, but less than 12% were taking antihypertensive medication. Out of 151 participants, 3.3% (n = 5) were diagnosed with diabetes mellitus and 37.7% (n = 57) with prediabetes, giving an overall prevalence of 41.1% for dysglycemia. The mean age of participants with dysglycemia was significantly older (47.9 vs. 42.3 years, p-value 0.002). Other parameters were not statistically different for the two groups. Mean M-FINDRISC score was 9.7 ± 3.9 in the normal and 10.8 ± 4.0 in the dysglycemic group, while rCBG was 6.4 ± 1.1 mmol/L and 7.1 ± 3.1 mmol/L, respectively. ROC-AUC of M-FINDRISC for dysglycemia was 0.561. A combined screening strategy (M-FINDRISC score ≥7.5 and CBG ≥7.8 mmol/L) yielded high specificity (89.9%) but low sensitivity (17.7%) for dysglycemia.

CONCLUSION

While the combined screening strategy utilizing M-FINDRISC and POCT random CBG improves specificity, M-FINDRISC showed limited predictive value for dysglycemia in this specific cohort, making it a less ideal tool for screening.