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Clinical characteristics of patients undergoing dental clearance: focus on diabetes

Kathryn Barnhill,[1] Leonard Chia,[2] Chris Frampton,[3] Helen Heenan,[4] Helen Lunt,[3,4] Jacqui Power[2]

[1]University of Otago, Christchurch
[2]Dental Department, Te Whatu Ora - Waitaha Canterbury, New Zealand
[3]Department of Medicine, University of Otago, Christchurch, New Zealand
[4]Diabetes Department, Te Whatu Ora - Waitaha Canterbury, New Zealand

INTRODUCTION

There is a bi-directional relationship between oral health and glycaemic control. People with diabetes are at greater risk of developing end stage dental disease, which may require full dental clearance. This retrospective clinical audit aimed to describe the clinical characteristics of adult patients with and without diabetes undergoing full dental clearance at a specialist hospital service, focusing on low-income populations.

METHODS

Data were obtained from the local dental departmental database and relevant e-health records, spanning January 2021 to July 2022. Social deprivation index (NZDep2018) data is expressed as quintiles, with 5 being most deprived.

RESULTS

Thirty-seven out of two hundred and twenty (17%) of patients undergoing dental clearance had diabetes, which contrasts with a local diabetes prevalence of about 5%. People with diabetes had a mean HbA1c of 55mmol/mol; 16/37 were on hypoglycaemic medications. Only one referral to the dental clearance pathway was received from the secondary care diabetes team.

The dental department was successful in focusing on low-income populations, as shown in the distribution of social deprivation scores. This audit found 64% of people with diabetes in the most-deprived two quintiles (quintiles 4 and 5), compared with 30% of the local general population ($p<0.001$).

CONCLUSIONS

People with diabetes and end stage oral disease may benefit nutritionally, cosmetically, and socially from dental clearance. While people with diabetes are over-represented in this treatment pathway, specialist diabetes input has been minimal. This may be due to lack of awareness among diabetes clinicians, regarding both the severity of this condition and the availability of treatment pathways.

Initiation of SGLT2i/GLP1RA Aotearoa New Zealand—what we know about the first 18 months

Lynne Chepulis,[1] Mark Rodrigues,[1] An Yu,[2] Rawiri Keenan,[1] Leanne Te Karu,[3] P Clark,[4] R Murphy,[3,5] T Kenealy,[3] J Scott-Jones,[6] A Moffit,[8] R Lawrenson,[1,8] R Paul[1,8]

[1] Waikato Medical Research Centre, Te Huataki Waiora School of Health, University of Waikato, Hamilton
[2] Te Huataki Waiora School of Health, University of Waikato, Hamilton
[3] Faculty of Medical and Health Sciences, The University of Auckland
[4] Northcare Medical Centre, Hamilton
[5] Te Whatu Ora Counties Manukau/Te Toka Tumai Auckland
[7] Pinnacle Midlands Health Network, Hamilton
[7] Procare Health Limited, Auckland
[8] Te Whatu Ora Waikato

AIMS AND OBJECTIVES

Empagliflozin and dulaglutide were funded for use in New Zealand in 2021 under special authority criteria (including a Māori/Pacific ethnicity clause). Here we report on the first 18 months of medication availability.

METHODS

Primary care data was sourced from Auckland and Waikato Primary Healthcare Organisations (302 general practices) for type 2 diabetes (T2D) patients aged 18–75 years during the period of Feb 2021 to July 2022 (n=53,142). We reviewed initiation of empagliflozin and dulaglutide by ethnicity and

presence of cardiovascular and/or renal disease (CVRD), and the incidence of diabetic ketoacidosis (DKA) in those prescribed empagliflozin (via linkage to the Ministry of Health datasets).

RESULTS

The cumulative initiation of these medications in eligible patients was 35–55% of at 18 months, and higher in Māori and Pacific patients compared to other groups (P<0.05). Prescribing of empagliflozin and dulaglutide was ~12% higher (41% and 43% vs 30%; P<0.05) and ~20% higher (56% and 51% vs 29.5%; P<0.01) in Māori and Pacific with and without CVRD, respectively, compared to non-Māori, non-Pacific patients. The incidence of DKA with empagliflozin use was 0.23% (167 cases in 40,523 patients) and more common in European patients (0.35% vs 0.10–0.17% for other ethnicities).

CONCLUSIONS

The addition of ethnicity as a criterion for funded access to SGLT2i/GLP1RA appears to have been successful at addressing the inequity in prescribing seen with other therapies. The rate of DKA with empagliflozin use is low and similar to that reported internationally.

Newly diagnosed type 2 diabetes—does primary care appropriately prepare patients to succeed?

Lynne Chepulis,[1] Jessie Mellsop-Kupe,[1] Suzanne Moorhouse,[2] Ryan G Paul[1,3]

[1]Waikato Medical Research Centre, University of Waikato, Hamilton, New Zealand

[2]Hauraki Primary Health Organisation, Hamilton, New Zealand

[3]Te Whatu Ora Waikato, Hamilton, New Zealand

AIMS AND OBJECTIVES

Diabetes management is multifaceted, involving appropriate management by both healthcare professionals (HCPs) and patients. The aim of this study was to explore how well primary care is preparing newly diagnosed patients to optimally manage their type 2 diabetes (T2D).

METHODS

T2D patients diagnosed after January 2020 were recruited via text and social media and invited to complete a 20-question online survey. Questions included demographic information (n=4), their diagnosis pathway (who, where, when and type of diabetes; n=5), the provision of information and resources (n=6) and their current diabetes management (n=5).

RESULTS

Responses were collected from 165 participants: 43.1% identified as Māori and the majority (87%) were diagnosed in primary care. Information provided by HCPs was identified as being "the most useful" diabetes management resource by 50% of patients, followed by whānau/family (40%) and self-led research (32%). Overall, 73% indicated that primary care provided them with enough information to manage their diabetes, 71% said they understood their medications, and 64% understood their HbA1c measurements. Less than a third of participants received referrals to specialist services (dieticians, pharmacists etc), and Asians were less satisfied with their HCP experiences than Māori and Pakeha respondents. Free-text comments included the need for empathy/understanding, as well as more culturally relevant diet-related information and language.

CONCLUSIONS

Primary care appears to be doing relatively well in supporting newly diagnosed patients to manage their T2D. Key areas for improvement include increasing access to support services, empathy from HCPs, and the provision of culturally appropriate resources.

A comparison of FreeStyle Libre 2 to self-monitoring of blood glucose in children with type 1 diabetes and sub-optimal glycaemic control: a 12-week randomised controlled trial

Alisa Boucsein,[1] Benjamin Wheeler,[1,2] Bronte Chamberlain,[1,2] Sara Styles,[3] Hamish Crocket,[4] Esko Wiltshire,[5,6] Anita Lala,[7] Vicki Cunningham,[8] Michel De Lange,[9] Anna Serlachius,[10] Martin de Bock,[11,12] Craig Jefferies[13,14]

[1]Department of Women's and Children's Health, Dunedin School of Medicine, University of Otago, Dunedin, New Zealand

[2]Department of Paediatrics, Te Whatu Ora Southern, Dunedin, New Zealand

[3]Department of Human Nutrition, University of Otago, Dunedin, New Zealand

[4]Te Huataki Waiora School of Health, University of Waikato, Hamilton, New Zealand

[5]Department of Paediatrics, University of Otago, Wellington, New Zealand

[6]Paediatrics, Capital & Coast District Health Board, Wellington, New Zealand

[7]Paediatrics, Bay of Plenty District Health Board, Tauranga, New Zealand

[8]Child Health Services, Te Tai Tokerau, Te Whatu Ora,

Whangārei, New Zealand
[9]Pacific Edge Ltd, Centre for Innovation, 87 Saint David Street, Dunedin, New Zealand
[10]Department of Psychological Medicine, The University of Auckland, Auckland, New Zealand
[11]Department of Paediatrics and Child Health, University of Otago, Christchurch, New Zealand
[12]Paediatrics, Canterbury District Health Board, Christchurch, New Zealand
[13]Starship Child Health, Te Whatu Ora – Health New Zealand, Te Toka Tumai Auckland, New Zealand
[14]The Liggins Institute and Department of Paediatrics, The University of Auckland, Auckland, New Zealand

BACKGROUND AND AIMS

Compare FreeStyle Libre 2, second-generation intermittently scanned glucose monitoring (isCGM) system (Abbott Diabetes Care, Witney, UK) to self-monitoring of blood glucose (SMBG) in children (4–13 years inclusive) with type 1 diabetes and HbA1c 58–110 mmol/mol.

MATERIALS AND METHODS

Open label randomised controlled trial from 5 centres. Following 2 weeks of blinded sensor, children were randomised 1:1 to control (SMBG) or intervention (FreeStyle Libre 2). The primary outcome was the difference in HbA1c at 12 weeks. Trial registration February 2020 (ACTRN12620000190909p).

RESULTS

There were 100 participants, 25% Māori, 22% Pasifika, 53% NZ European, mean age (SD) 10.9 (2.3) years, 41% males, duration of diabetes 4.2 (2.9) years, mean Hba1c 75.1 (13.6) mmol/mol with 83% on injections, 16% insulin pump. Fifty-one randomised to control and 49 to intervention. Ninety-one participants completed the trial—there was no difference in Hba1c between groups at 12 weeks: 74.7 (12.8 vs 76.1 [14.8] mmol/l; p=0.3), delta difference 0.23 (0.21, 0.67 CI; p=0.3). There was both an increase in SMBG frequency with isCGM (delta +4.89 [2.97, 6.81]; p<0.001) and a reduction in % time below target (<4mmol/l) difference -6.4 (-10.6, -4.2; p<0.001).

DISCUSSION

This is the first trial of second-generation isCGM in children and showed no overall improvement in Hba1c, but a reduction in time in hypoglycaemia in children with sub-optimal control aged 4–13 years was seen. Wider access to isCGM alone may not improve diabetes control.

FUNDING

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Creation of a dietitian-led gestational diabetes diet-controlled telehealth pathway at Christchurch Women's Hospital

Elizabeth Love,[1] Tory Crowder,[1] Helen Little[2]

[1]Nutrition & Dietetics, Christchurch Health Campus, Canterbury District Health Board
[2]Director of Allied Health, Christchurch Health Campus, Canterbury District Health Board

INTRODUCTION

Data collected between 2019–2020 showed a 17% increased prevalence of women diagnosed with gestational diabetes (GDM) at Christchurch Women's Hospital (CWH). With no increase in resources, a new dietitian-led telehealth model of care was initiated for diet-controlled GDM women.

AIM

To evaluate the reduced physician and obstetric workload and financial cost savings of the service delivery with the move to a dietitian-led telehealth model of care.

METHOD

To review and develop a dietitian-led telehealth model of care for our women with GDM and to secure funding for permanent resourcing for a diabetes dietitian.

RESULTS

Our telehealth model of care was rolled out successfully in June 2021 with 429 referrals in the first 12 months. Each patient was initially part of our telehealth model and continued so if they remained diet controlled. Twenty eight percent of our cohort (n=119) remained diet-controlled and under the care of a dietitian throughout pregnancy. We successfully reduced the workload and clinic space of 464–696 physician/obstetrician appointments with a cost avoidance of upwards of $235,000 per annum. We also successfully introduced Diabetes Midwifery metformin prescribing, further reducing the workload and clinic space of physicians, and secured permanent 0.6 FTE dietetic funding to continue our model of care.

CONCLUSION

We have successfully introduced a dietitian-led telehealth model of care for diet-controlled women with GDM at CWH, with large savings in terms of reduced physician and obstetric input and cost avoidance. It is hoped this model of care can be extended nationwide.

Analysis of patients with diabetes admitted with foot ulcerations at Middlemore Hospital from January 2010 to December 2018, Te Whatu Ora – Health New Zealand

Roberta Milne,[1] Elham Hajje[1]

[1]*Te Whatu Ora Counties Manukau*

INTRODUCTION

Analysis of the patients who have been admitted to Middlemore Hospital with diabetes with foot ulcerations over an 8-year period.

AIMS AND OBJECTIVES

Identify the cause of the ulceration, demographics of the patient population, ethnicity, age, type of diabetes and level of diabetes control, their comorbidities, length of stay, and to see if they had been seen by the MDT foot clinic prior and after their admission.

METHODS

Using Casemix data to identify patients with diabetes and foot ulcerations over the timeframe. Using clinical portal to identify cause of ulcer, their comorbidities, level of diabetes control, and type of diabetes.

RESULTS

There were 2,504 admissions in 1,200 patients. A third of this group overlapped with the patients having amputations. Total bed-stay in the whole group was 12,503 days, with an average of 10.6 days, range 0–111. The group predominantly have type 2 diabetes, 59% are male, ethnicity: Māori 19%, European 29%, Pacific 42%, and other 10%. Age range: 20–94, mean age 62.

DISCUSSION AND RECOMMENDATIONS

This group of patients are admitted on multiple occasions, and not always for a foot ulcer and re-ulcerations. They have comorbidities that are exacerbating and worsening outcomes. Pacific people are overrepresented in this group. This group are costly due to time spent in hospital, and they have a poorer quality of life. Their feet are examined every time they are admitted, and they need lifelong follow up when discharged.

Online diabetes education in primary care is effective but needs to be individualised to maximise uptake

Ryan Paul,[1] Kristina Campbell,[1] Lynne Chepulis,[1] Cathy Buntting,[2] Bryan Betty,[3] Rinki Murphy,[4] Bruce Arroll,[5] Ross Lawrenson[1]

[1] *Te Huataki Waiora School of Health, University of Waikato, New Zealand*

[2]*Wilf Malcolm Institute of Educational Research, University of Waikato, New Zealand*

[3]*General Practice, New Zealand*

[4]*Faculty of Medical and Health Sciences, The University of Auckland; Department of General Practice and Primary Health Care, The University of Auckland, New Zealand*

INTRODUCTION

Lack of specialist knowledge is acknowledged as a major barrier to diabetes management in the community. The aim of this study was to determine the most preferred/effective form of diabetes education for healthcare professionals (HCPs) in primary care.

METHODS

Eighty-one PHCPs (22 GPs, 45 nurses, 9 pharmacists, and 5 others) participated in the research component of the free online 2022 Waikato Primary Care Diabetes Education Programme. The programme consisted of 16 weekly 30-minute endocrinologist-led sessions, with eight webinars followed by eight case discussion sessions on various aspects of diabetes management. Participants completed a standardised 14 x 7-point Likert scale questionnaire (maximum score 98) on self-efficacy of various aspects of diabetes management before and after the programme and completed an education preference questionnaire.

RESULTS

Self-efficacy scores improved for all PHCPs with similar increases in all disciplines (GPs 60+11 to 80+11; nurses 58+19 to 81+12; pharmacists 52+12 to 75+10; others 45+14 to 66+16; all $P<0.05$). All forms of education were identified as important, with the most preferred form of education being live webinars for GPs (36%), nurses, and others (both 60%), while case discussions were the most preferred form for pharmacists (44%). Recorded webinars were the least preferred option for all groups (59–71%). Ninety-eight percent would strongly recommend this programme to their peers.

CONCLUSIONS

Online education on diabetes management can be effective for all PHCPs. To maximise effectiveness, education needs to be individualised and ideally delivered live at times suitable for PHCPs.

Ma te rongo ka mohio: initial engagement determines the extent of supportive self-management for T2DM aged between 20 and 40 years

Timothy Ryan, Richard Rautjoki

Health Research Council of New Zealand

INTRODUCTION

Those patients diagnosed with type 2 diabetes aged between 20 and 40 have worse health and wellbeing outcomes than those diagnosed over 40.[1]

OBJECTIVE

To provide space for a "voice" from someone with lived experiences.[2,3]

METHOD

We conducted a review of supportive self-management programmes, including Māori health initiatives. The review was supplemented with patient interviews of their health system journeys, specifically exploring barriers and facilitators to supportive management.

RESULTS

A variety of themes emerged which focused on primary engagement and relationships:

Mana—respect: participants wanted to be understood and to have the clinician see their life circumstances from their perspective, including whānau at every opportunity.

Whakarongo—listening: the information a patient "hears" at first diagnosis seems to stay with them throughout their health journey, and this can mitigate further consultations. Written material is less important, so oral and visual information at this key initial stage is critical.

Haepapa—responsibility: a strong theme in self-supportive management was the effort to organise life while living with diabetes.

Hangarau—technological advances: giving better options for self-supportive management.

Ataata rongo—visual prompts: the use of alternative prompts became a powerful motivator in managing diabetes.

CONCLUSION/DISCUSSION

The initial service engagement and subsequent patient–clinician relationship can determine the degree of self-supportive management. A supportive self-management of T2DM model should include crucial steps in the initial consultation process.

REFERENCES

1. Wong J. Young Adult Onset Type 2 Diabetes [video on the Internet]. Sydney: University of Sydney; 2021 Mar. Available from: https://players.brightcove.net/3845398857001/Byt7bybgg_default/index.html?videoId=6247104977001
2. He Ako Hiringa. EPiC dashboard: Type-2 Diabetes [Internet]. Auckland: He Ako Hiringa EPiC; 2023 [cited 2023 Jul 10]. Available from: https://epic.akohiringa.co.nz/diabetesPatientDemographic
3. Vitz M, Moss B, Ward H, Soma P, Isichei-Kizito J, Hall R et al. New Zealand may finally get funded access to diabetes drugs which reduce cardiovascular events and progression of kidney disease: an audit of proposed PHARMAC criteria compared with international guidelines. N Z Med J. 2020 Oct 9;133(1523):76-86.

Continuous glucose monitoring ameliorates diabetes outcomes inequity based on ethnicity and social deprivation evident 12 months after diagnoses of type 1 diabetes

Luke Stedman,[1] Jonathan Williman,[2] Mercedes Burnside,[1] Hannah Davies,[1] Craig Jefferies,[3,4] Brooke Marsters,[1] Ryan Paul,[5,6] Benjamin Wheeler,[7,8] Esko Wiltshire,[9,10] Martin de Bock[1,11]

[1]Department of Paediatrics, University of Otago Christchurch, Christchurch, New Zealand
[2]Biostatistics and Computation Biology Unit, University of Otago Christchurch, Christchurch, New Zealand
[3]New Zealand Starship Children's Health, Te Whatu Ora Health New Zealand - Te Toka Tumai, Auckland, New Zealand
[4]Liggins Institute, The University of Auckland, Auckland, New Zealand
[5]Waikato Regional Diabetes Service, Te Whatu Ora Health New Zealand - Waikato, Hamilton, New Zealand
[6]Te Huataki Waiora School of Health, University of Waikato, Hamilton, New Zealand
[7]Department of Women's and Children's Health, Dunedin School of Medicine, University of Otago, Dunedin, New Zealand
[8]Department of Paediatrics, Te Whatu Ora Health New Zealand - Southern, Dunedin, New Zealand
[9]Department of Paediatrics and Child Health, University of Otago, Wellington, New Zealand
[10]Department of Paediatrics, Te Whatu Ora Health New Zealand - Capital, Coast and Hutt Valley, Wellington, New Zealand
[11]Department of Paediatrics, Te Whatu Ora Health New Zealand - Waitaha Canterbury, Christchurch, New Zealand.

INTRODUCTION

Socio-economic status and ethnicity predict type one diabetes (T1D) outcomes. We aimed to investigate if inequities (HbA1c, access to continuous glucose monitoring [CGM]) are evident 12 months after diagnosis in children with T1D in New Zealand, and if CGM access impacts observed disparities.

METHODS

Deidentified clinical data were collected 12 months after diagnosis on all under 15-year-olds in New Zealand diagnosed with T1D in a secondary care centre between 1 October 2020–1 October 2021. Socio-economic status (SES) was estimated using the

New Zealand Deprivation Index.

RESULTS

Two hundred and six children were analysed (30 Māori, 149 European). At 12 months, Māori mean HbA1c was 9.4 (4.0 to 14.8, p<0.001) mmol/mol higher than Europeans (69.6 vs 60.2 mmol/mol respectively). After fully adjusting, HbA1c remained 10.83 (2.3 to 19.4, p=0.013) mmol/mol higher in Māori than Europeans.

SES predicted higher HbA1c, with those in the most vs least deprived regions having an adjusted HbA1c 10.78 (4.7 to 16.9, p<0.001) mmol/mol higher.

Fifty-six point seven percent of Māori children with T1D were using CGM compared to 77.2% European, with differences somewhat but not entirely predicted by SES.

Differences between Māori and European adjusted HbA1c were much smaller for children on CGM (2.2 [-4.5 to 8.9, p=0.52]) vs children not on CGM (10.8 [2.3 to 19.4, p=0.013]).

CONCLUSION

Social deprivation and Māori ethnicity are strong independent predictors of higher HbA1c 12 months post diagnosis of T1D; however, Māori had higher HbA1c even after accounting for deprivation. CGM use ameliorates this ethnic difference, regardless of SES.

Impact of Advanced Hybrid Closed-Loop on youth with high-risk type 1 diabetes using multiple daily injections

Alisa Boucsein,[1] Antony Watson,[2] Carla Frewen,[1] Olivia Sanders,[2] Jillian Haszard,[3] Shirley Jones,[1] Pip Milford-Hughes,[1] Martin de Bock,[2,4] Benjamin Wheeler[1,5]

[1]Department of Women's and Children's Health, University of Otago, Dunedin, New Zealand
[2]Department of Paediatrics, University of Otago, Christchurch, New Zealand
[3]Division of Sciences, University of Otago, Dunedin, New Zealand
[4]Te Whatu Ora – Health New Zealand, Christchurch, New Zealand
[5]Te Whatu Ora – Health New Zealand, Dunedin, New Zealand

INTRODUCTION/OBJECTIVES

Automated insulin delivery (AID) is the gold standard therapy for type 1 diabetes. However, there is little data on advanced AID outcomes in those who are struggling with glucose control on traditional injection therapy. The objective of this prospective 3-month single-arm, dual-center study was to evaluate glycemic outcomes in youth (aged 13–25 years) with type 1 diabetes and high-risk glycemic control ([HbA1c >8.5% [69 mmol/mol]) on multiple daily injections (MDI) after transitioning to advanced hybrid closed-loop (AHCL) therapy.

METHODS

This prospective, single-arm, dual-center study investigated AHCL in youth with high-risk glycemia using MDI. Participants were recruited through clinics based out of Dunedin and Christchurch on a first-come, first-served basis. Participants were eligible if they had type 1 diabetes as per American Diabetes Association classification for >1 year, aged 13–25 years (inclusive), current HbA1c of >8.5% (69 mmol/mol), and on MDI.

RESULTS

Twenty participants were enrolled, and all completed the study. HbA1c decreased from 10.5+2.1% (91.2+22.8 mmol/mol) at baseline to 7.6+1.1% (59.7+11.9 mmol/mol) and time spent in target range 70–180 mg/dL (3.9–10.0 mmol/L) increased from 27.6+13.2% at baseline, to 66.5+9.8% after 3 months of AHCL. Two episodes of diabetic ketoacidosis attributed to infusion set failure occurred.

DISCUSSION/CONCLUSION

AHCL has the potential to considerably improve suboptimal glycemia in youth with type 1 diabetes previously on MDI.

Epidemiology of diabetic retinopathy among paediatric patients from a regional centre (Auckland, New Zealand) over 15 years (2006–2020)

Tom Winter,[1] José Derraik,[2,3,4,5] Craig Jefferies,[2,3,6] Paul Hofman,[2,6] James Shand,[7] Geoffrey Braatvedt,[7] Stuti Misra[8]

[1]Faculty of Medical and Health Sciences, The University of Auckland, Auckland, New Zealand
[2]Liggins Institute, The University of Auckland, Auckland, New Zealand
[3]Department of Paediatrics: Child and Youth Health, School of Medicine, Faculty of Medical and Health Sciences, The University of Auckland, Auckland, New Zealand
[4]Department of Women's and Children's Health, Uppsala University, Uppsala, Sweden
[5]Environmental-Occupational Health Sciences and Non-Communicable Diseases Research Group, Research Institute for Health Sciences, Chiang Mai University, Chiang Mai, Thailand
[6]Starship Child Health, Te Whatu Ora – Health New Zealand, Te Toka Tumai Auckland, New Zealand
[7]Department of Endocrinology, Greenlane Clinical Centre, Te Whatu Ora – Health New Zealand, Te Toka Tumai

Auckland, New Zealand
[8]Department of Ophthalmology, New Zealand National Eye Centre, Faculty of Medical and Health Sciences, The University of Auckland, Auckland, New Zealand

INTRODUCTION/OBJECTIVES

Diabetic retinopathy (DR) is the most common microvascular complication of type 1 diabetes (T1D). Glycaemic control is a key modifiable risk factor. DR prevalence estimates in youth show marked variability. This study aims to estimate DR incidence and examine demographic and clinical factors associated with DR and its severity in children with T1D in Auckland, New Zealand.

METHODS

Data were extracted from the Starbase database, which documents >95% of children with diabetes in Auckland. Children were included if they were diagnosed with T1D before 2015, had attended >1 clinic in 2006–2020 when aged <16 years, and had undergone >1 retinopathy screening.

RESULTS

Included children (n=646) were diagnosed at 7.4 years (SD=3.6); 47% were female, and 69% were NZ Europeans. First DR assessment was 5.2 years after T1D diagnosis (SD=2.2). At first screening, incidence was 24%. Fifty-six percent had DR at least once, with worst results mostly minimal (58%) and mild (41%). Predictors of DR at first screen were older age at T1D diagnosis (p=0.033), diabetes duration (p=0.005), and higher HbA1c levels (p=0.056). Mean HbA1c was 71.8 (SD=15.0) and 69.0 (SD=16.1) in those with and without DR, respectively. Pasifika ethnicity was also associated with a diagnosis of DR during the study period (p=0.005).

DISCUSSION/CONCLUSIONS

DR incidence at first screening was relatively high, and over half of patients had DR at least once. Glycaemic control needs significant improvement to prevent microvascular complications. Some evidence was noted supporting current duration- and age-based screening thresholds. Inequitable patterns of DR negatively impact Pasifika patients.