The Newcastle upon Tyne Hospitals NHS
NHS Foundation Trust

Post- Renal Transplant diabetes management

A pilot project

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Post-Transplant diabetes (PTDM)

- The term NODAT was changed to PTDM by a Consensus report in 2014, to reflect time of diagnosis rather than time of onset.

- Associated with adverse clinical outcomes if not well controlled.

Regional data

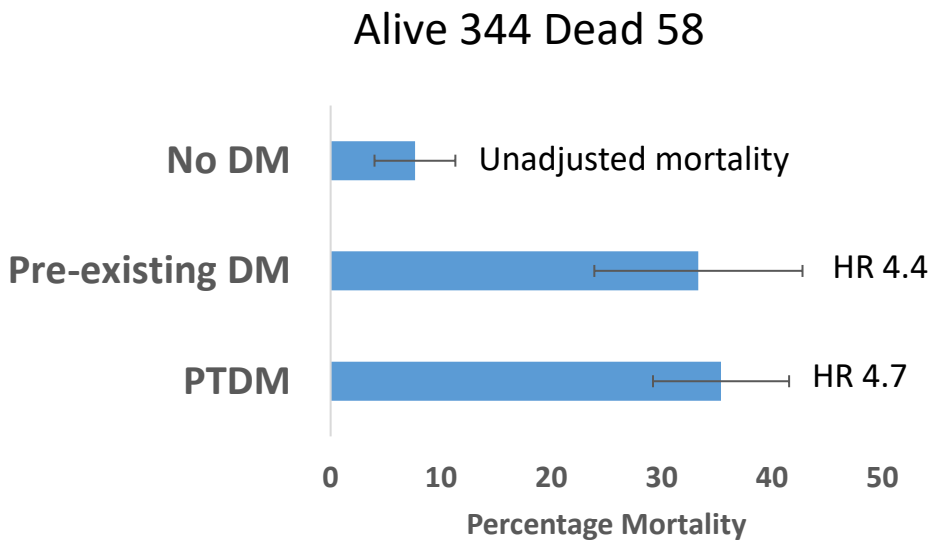
402 transplants

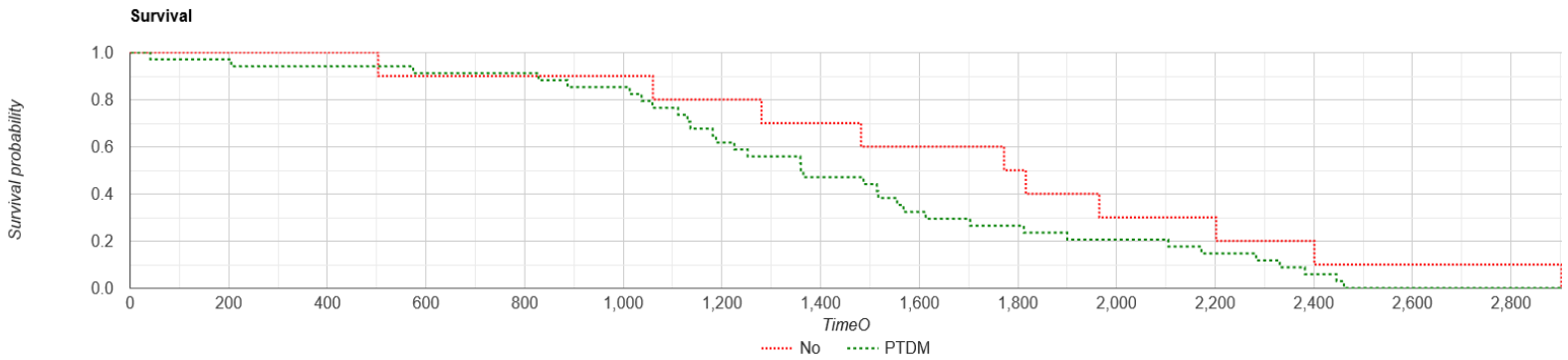
7 year follow-up

Post-transplant diabetes, n=65 (16.2%)

Pre-transplant diabetes, n=36 (9%)

No diabetes, n=301 (75.8%)





Need for service development

Results indicated a need to develop a service which would potentially help to better manage PTDM and may help improve kidney transplant survival in patients with PTDM.

Aim: To improve HbA1c by optimising diabetes medications, immunosuppressant therapy, and providing dietary advice.

MDT consisted of:

- Nephrologist- Individualised immunosuppression based on immunologic and glycaemic risk
- Diabetologist- Optimising diabetes medication
- Dietitian – Group education – diabetes management and addressing cardiovascular risk factors in PTDM (lipids, blood pressure, weight, smoking) and telephone follow-up.

Dietetic funding

All patients with confirmed PTDM should be offered a structured diabetes education.

(Association of British Clinical Diabetologists and Renal Association guidelines on the detection and management of diabetes post solid organ transplantation, Jan 2021)

- Dietetic funding for 0.2WTE (1day/week) was approved by Newcastle hospital charities for a period of 12months (December 2023-2024).

1. Planning, organising and executing monthly Group Education Sessions.
2. Monthly MDT meetings
3. 3-4 monthly telephone Follow-Up
4. Patient Feedback Questionnaire
5. Data collection and Analysis

MDT working

- Method:

-Suitable patients were identified from renal transplant outpatient clinics.

- Inclusion criteria:

➢ >3months post transplant

➢ stable Hb

➢ willing / able to participate

➢ HBA1c >48mmol/l

- MDT held every month for individualised medication review – changes to medication were communicated with patients and their GP.

eg: Metformin with eGFR>30 and obese , Linagliptin with low eGFR

- Appropriate patients were triaged to attend diet and lifestyle group education session.

- Follow-up telephone consultation after 3-4 months with dietitian.

-Monitoring of HbA1c, weight and patient experience.

Dietetic group education

- 50 patients were included in this pilot.
- 46 patients were triaged for dietetic group education (1 patient had language barrier and 3 were frail with BMI<18 and multiple co-morbidities- not appropriate for group education)

➢ Patients were sent invitation letters with a specific date and time, requesting to contact to rearrange appointment if unsuitable.

Problem: High "Did Not Attend" (DNA) rates for scheduled sessions.

Intervention:

- Opt-in invitation letters with multiple dates/times to choose from.
- Patients asked to call and book a suitable appointment.
- Telephone reminder one week prior to the group session.

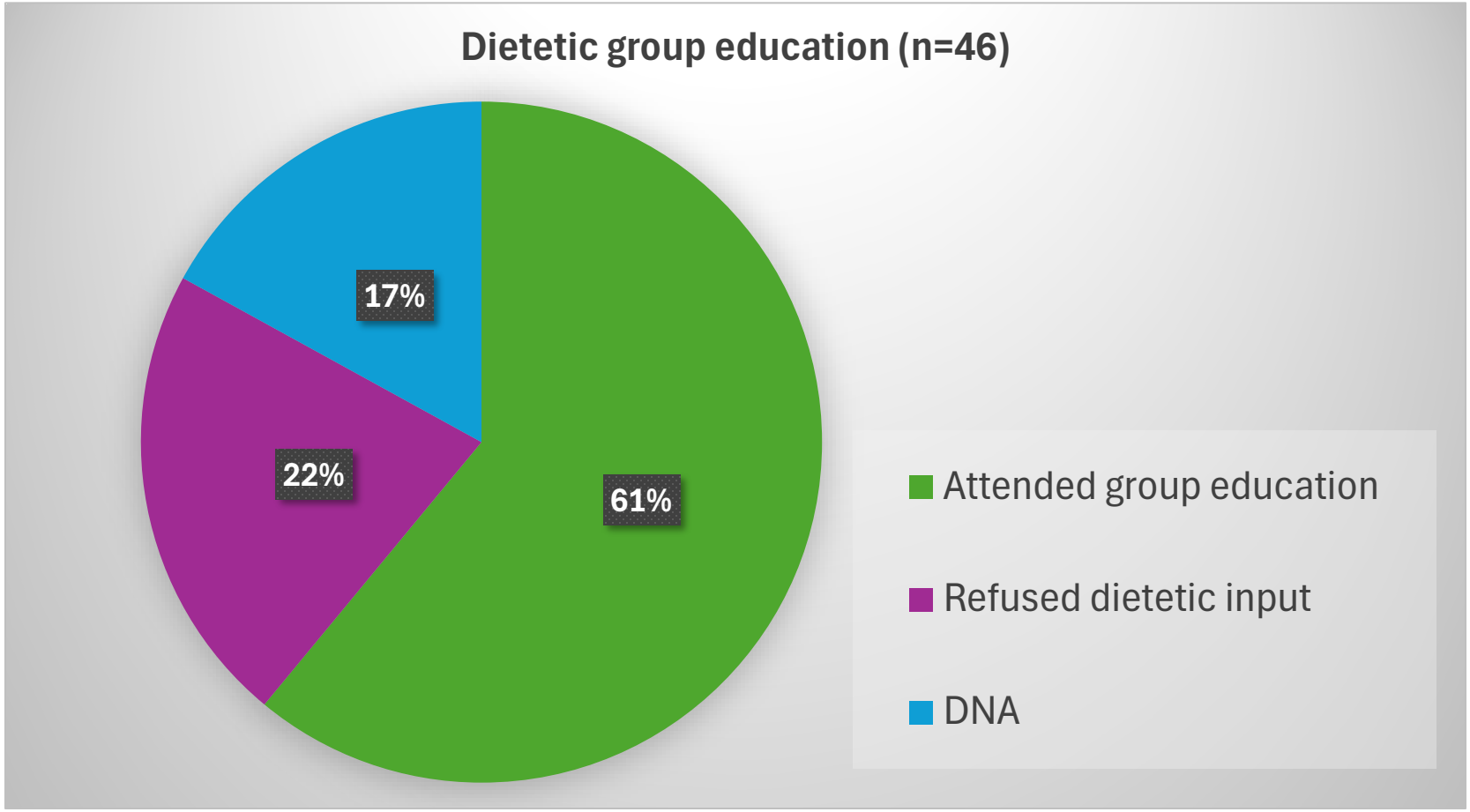
Results:

- DNA rates reduced by **>50%**.
- Patients appreciated reminders and flexibility.

Next Steps:

- Adopt opt-in + reminder system for all sessions.

Dietetic group education



Dietetic group education

- 2hrs group education conducted once/month

Resources used for education:

- Power point presentation
- Interactive group education tools- carbohydrate portion game, carbs and cals cards
- Motivational interviewing techniques- learning from each other.
- Hypoglycaemia management
- Written information provided- Plant based diet sheets for healthy eating/ weight management, Inhouse diet sheet for type 2 diabetes, British heart foundation diet sheet for BP, cholesterol.
- Last 15-20minutes of the session was used to do personal goal setting which was documented and used during follow-up.
- Patient feedback form

Dietetic follow-up

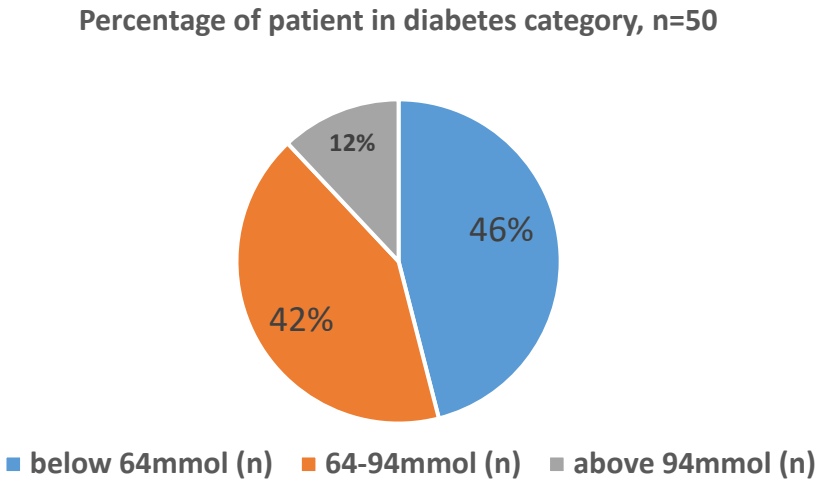
Telephone follow-up 3-4months post group education session.

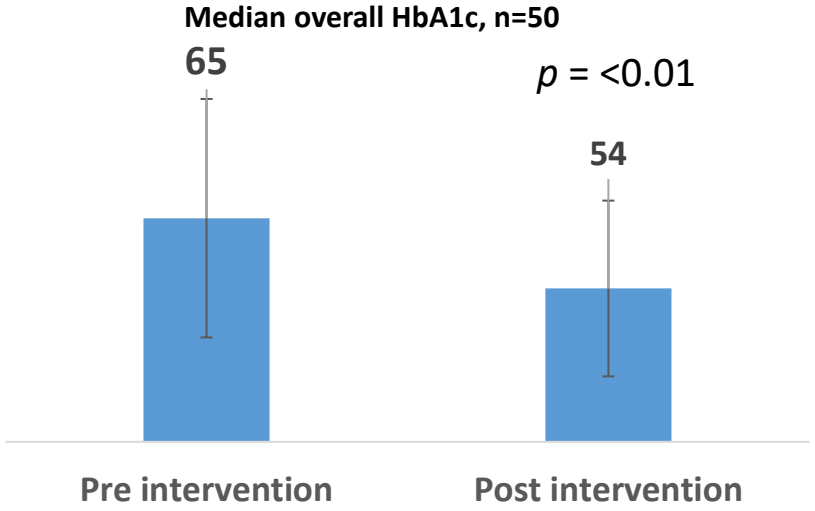
HbA1c and weight check from clinic records

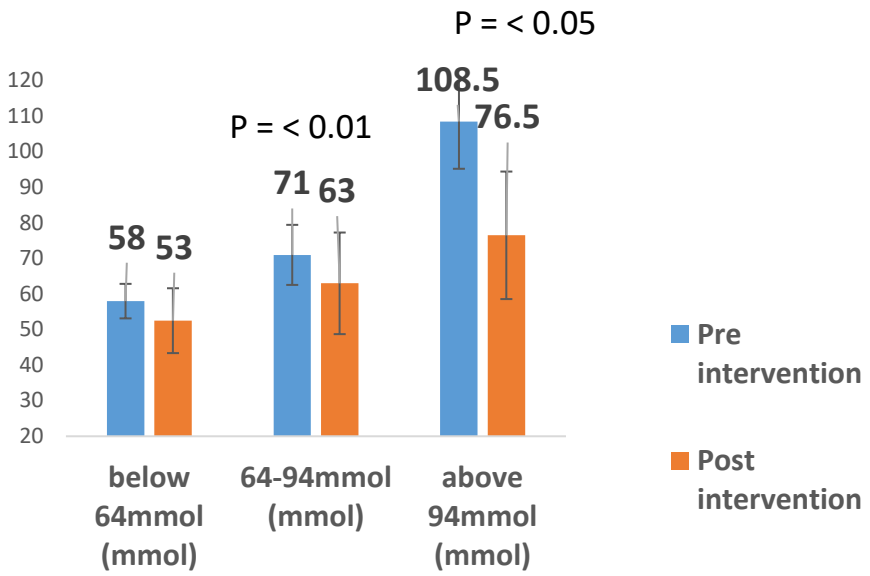
Follow up according to personal goal setting

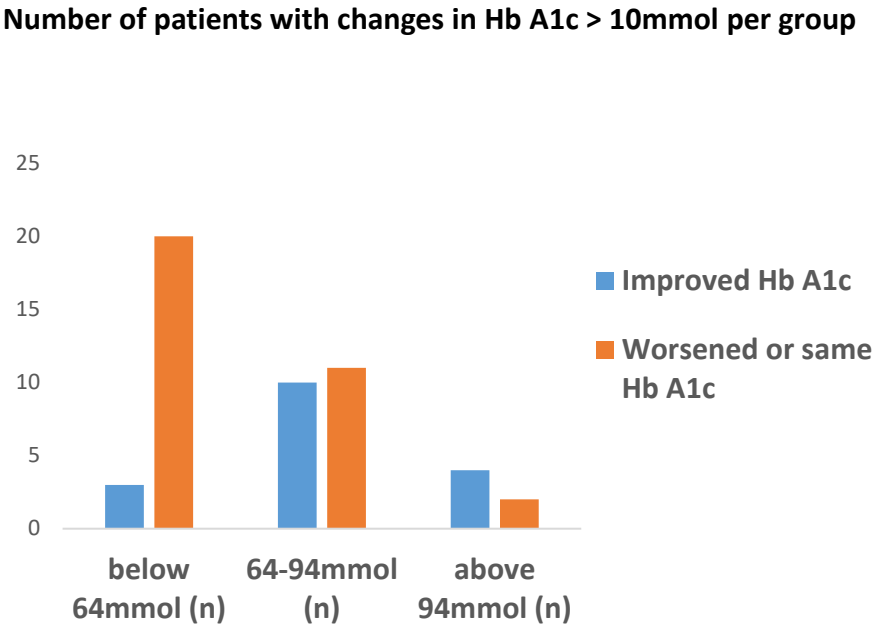
Further recommendations as needed

Overall Results



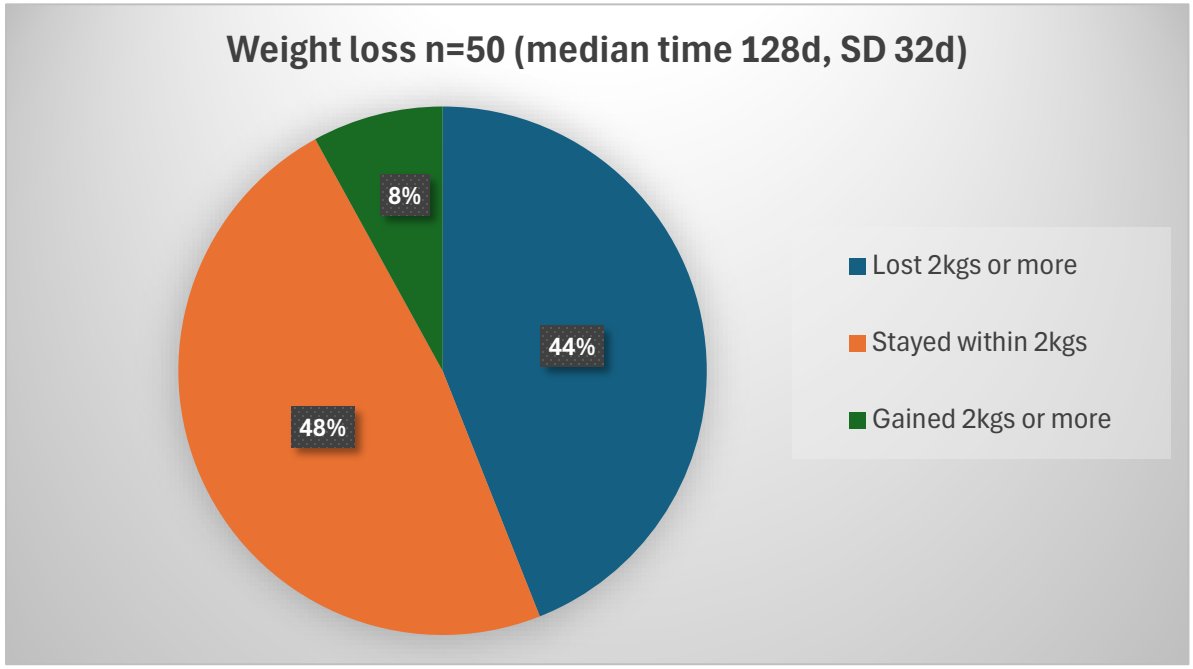




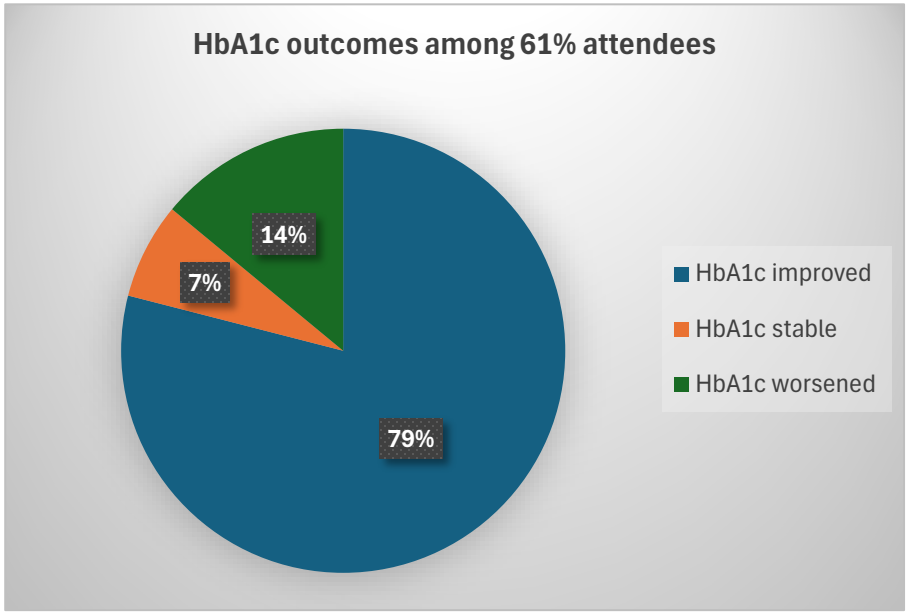


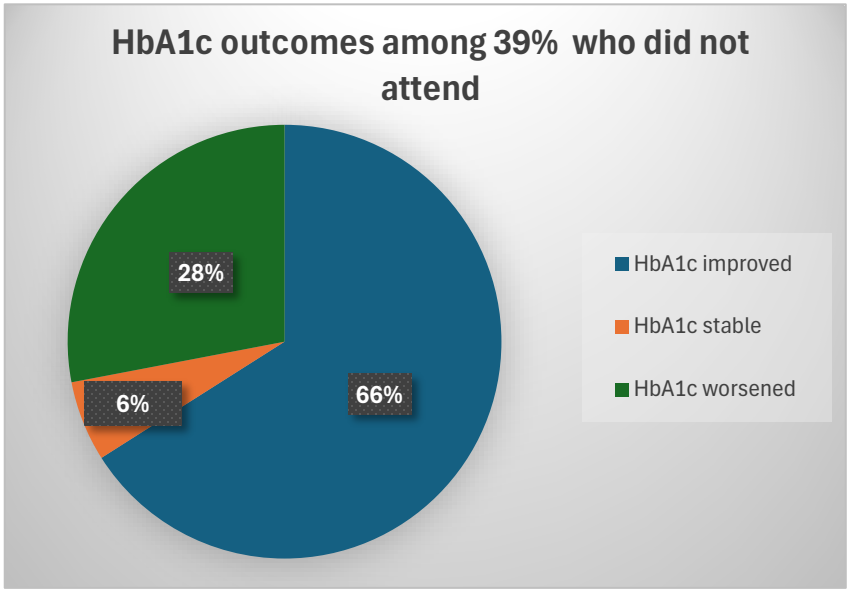
Results: Weight changes

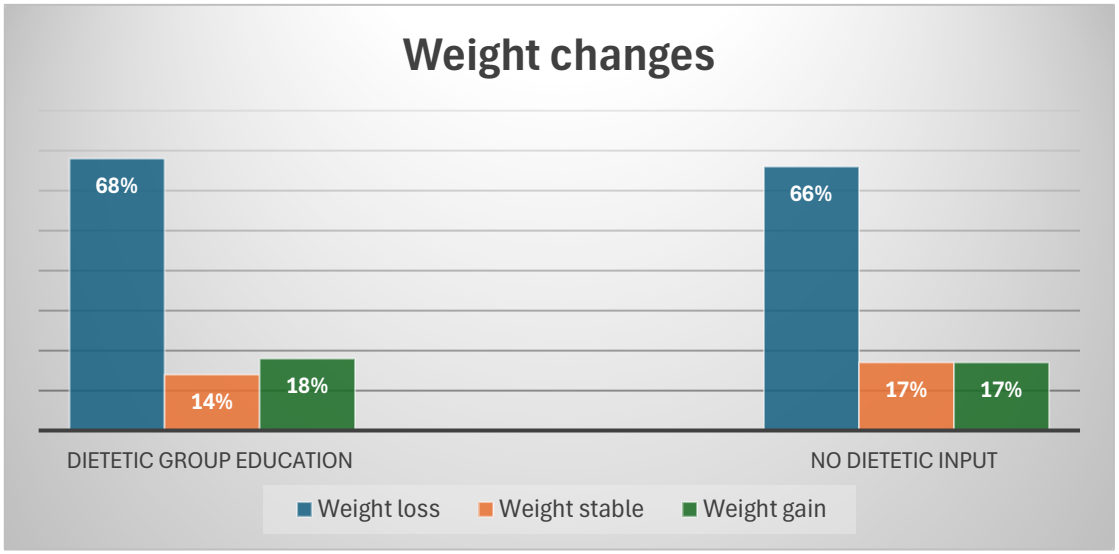
Average BMI was 29kg/m2



Results with and without dietetic input







Patient feedback was positive

All patients thought the dietetic session was excellent/good and very useful to help make dietary changes.

All patients felt they would be able to practice the advice provided and felt confident to make the changes

All patients felt that at least one or more aspect of their diet would change because of the education and lifestyle modification advice provided in the session

Most patients felt they would change their diet to include more fruit and vegetables, reduce portion sizes, limit carbohydrate portions and exercise more. Few others felt that they would limit red meat, processed foods, sweets and reduce alcohol consumption

Overall conclusions

- Median Hb A1c improved from 65 to 54 mmol across all groups
- Moderate to severe diabetes benefitted most (8mmol and 32mmol, respectively)
- Hb A1c reduction of 10mmol was achieved for around half of patients with moderate diabetes and for most patients with severe diabetes
- Patient gave positive feedback about service
- Better HbAa1c results were seen when patients attended dietetic session as compared to patients who did not, indicating the benefit of MDT working.
- The pilot supports the need for multi-centre RCT level studies in PTDM

Limitations

Not an RCT so no equivalent control group without intervention

Very low number of referrals from nephrologists, potential for skewed patient population

Some patients denied having diabetes or DNA'd lifestyle intervention

Limited study time frame – could situation deteriorate or regress to mean

Limited clinician time

No physiotherapy support – for weight management

No admin support which added to the workload


Thank
you!