

Medication adherence amongst people with less than ideal glycaemic control:

the Lifestyle Over and Above Drugs in Diabetes (LOADD) Study

Kirsten Coppel¹, Jim Mann^{1,2}, Alex Chisholm², Sheila Williams³, Sue Vorgers^{1,2}, Minako Kataoka^{1,2}

1 Edgar National Centre for Diabetes Research, University of Otago, Dunedin, New Zealand

2 Department of Human Nutrition, University of Otago, Dunedin, New Zealand

3 Department of Preventive and Social Medicine, University of Otago, Dunedin, New Zealand

BACKGROUND

- Lifestyle modification, in particular adopting an appropriate dietary pattern, has been regarded as the cornerstone of treatment for all people with Type 2 diabetes.
- Drugs to lower blood glucose and blood pressure, and treat dyslipidaemia are more widely prescribed than previously, and the importance of lifestyle may have been overlooked. Adherence to healthy lifestyle changes is notoriously difficult for many people. Taking tablets is often a preferred option. However, adherence to diabetes medication is not always good either.
- Medication adherence can be difficult to assess. The Morisky medication adherence scale, originally developed (and validated) to assess medication adherence in hypertensive patients, has been used in other settings. A simple 4-question survey is used to calculate a score, with a higher score (scale 0 to 4) indicating better treatment adherence¹. A high score has been associated with a lower HbA1c².
- The aim of this study was to describe compliance with current New Zealand primary care diabetes management guidelines and medication adherence amongst a group of people with Type 2 diabetes prior to being randomised in the Lifestyle Over and Above Drugs in Diabetes (LOADD) study.



METHODS

- Overweight or obese (BMI >25) people with Type 2 diabetes diagnosed for one year or more and aged less than 70 years were recruited to attend for a medical assessment prior to entering the LOADD study. Patients had to be taking medication (oral hypoglycaemics or insulin or combination therapy) for glycaemic control and HbA1c had to be >7%.
- A medical assessment was undertaken to check that patients were being prescribed recommended diabetes and cardioprotective medication in accordance with current New Zealand guidelines. A questionnaire was completed as well as anthropometric and fasting biochemistry measures. The Morisky Score, an estimate of medication adherence, was calculated.



RESULTS

- 57% of the first 89 patients recruited were female. 81% were European, 8% Maori and 11% identified with other ethnic groups. Mean age was 56.9 (SD=9.1) years, 12.4% were current smokers and 43.8% were ex-smokers. Median duration with diagnosed diabetes was 5.0 years (range 1 to 23 years). 35% attended the Dunedin Hospital diabetes clinic. 75% monitored their blood glucose regularly.
- 22.5% were using combination oral hypoglycaemic and insulin therapy. Only one person was using insulin only. Metformin was the most frequently prescribed oral hypoglycaemic medication (87.6%). Most were taking cardioprotective medications.
- Only one patient needed their medication adjusted. Three (3.4%) patients had a low adherence Morisky Score (0 or 1) suggesting a high likelihood of non-adherence. 13 (14.9%) had a medium adherence Morisky Score of 2.

TABLE 1. Characteristics of the first 89 patients recruited

Characteristic	Mean	(SD)
<i>Female</i>		
Weight (kg)	94.6	(18.5)
BMI (kg/m ²)	36.0	(6.5)
<i>Male</i>		
Weight (kg)	100.6	(18.2)
BMI (kg/m ²)	33.3	(5.0)
<i>All participants</i>		
Systolic blood pressure (mmHg)	135.3	(18.5)
Diastolic blood pressure (mmHg)	81.2	(8.7)
Fasting plasma glucose (mmol/l)	8.2	(2.68)
HbA1c (%)	8.7	(1.61)
Total cholesterol (mmol/l)	4.11	(0.92)
HDL cholesterol (mmol/l)	1.02	(0.26)
LDL cholesterol (mmol/l)	2.37	(0.83)
Triglycerides (mmol/l)	1.58	(0.81)

CONCLUSIONS

- Overall, prescribed medication regimes and medication adherence was assessed as being reasonably good amongst this group of overweight and obese Type 2 diabetic patients with poor glycaemic control.

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