




Increased medication use is associated with poorer health-related quality of life among people with diabetes independent of glycaemia

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The North West Adelaide Health Study

- Biomedical cohort study
- Established in 2000
- Collaboration between The Queen Elizabeth Hospital, Lyell McEwin Health Service, South Australian Department of Health, University of Adelaide, University of South Australia
- Designed to assess prevalence of priority conditions, risk factors and determinants across continuum, and progression over time

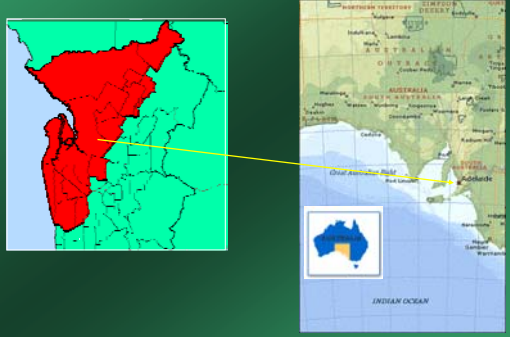



South Australia






North West Adelaide, South Australia





Background

- People with diabetes experience impaired quality of life compared to those without diabetes
- Quality of life is impaired before diabetes has developed
- Diagnosis of diabetes is associated with reduced quality of life
- Poor glucose control is associated with impaired quality of life among people with diabetes



Aim

- To examine the relationship between medication use and health related quality of life among people with diabetes, controlling for HbA1c, using longitudinal data from the North West Adelaide Health Study.

Methods

- Households randomly selected from Electronic White Pages
- Approach letter sent to households
- CATI
- Person last to have birthday, aged 18+ years, selected
- Appointment made to attend clinic
- Information pack sent including questionnaire

The collage shows several documents: an approach letter, a participant information sheet titled 'Participant Information', and a questionnaire B form titled 'Questionnaire B'. The documents are arranged to show the flow of information from the initial contact to the data collection stage.

Clinic assessment

- Fasting blood test (glucose, lipids, glycated haemoglobin, creatinine)
- Blood pressure
- Height and weight
- Waist and hip circumference
- Lung function spirometry
- Skin allergies
- Comprehensive list of medications currently being taken

Response rate - Stage 1 (2000-2003)

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graph TD
    A[Initial sample n=10096] --> B[Eligible sample n=8213]
    A -.-> C[Ineligible n=1883 18.7%]
    B --> D[Interviewed n=5850]
    B -.-> E[Non-contacts n=215 2.6%]
    B -.-> F[Refused interview n=2148 26.2%]
    D --> G[Attended clinic n=4060]
    D -.-> H[Refused clinic n=1790 30.6%]
    G --> I[Attended clinic / interviewed = 69.4% participation rate]
    G --> J[Attended clinic / eligible sample = 49.4% response rate]
  
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Response rate - Stage 2 (2004-2006)

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graph TD
    A[Initial sample n=4060] --> B[Eligible sample n=3957 97.5%]
    A -.-> C[Deceased n=100 Duplicate IDs n=3]
    B --> D[Information obtained n=3564 90.1%]
    B -.-> E[Non-contacts n=233 5.9%]
    B -.-> F[No information obtained n=160 4.0%]
    D --> G[Telephone interview n=3485 88.1%]
    D --> H[Questionnaire n=3145 81.2%]
    D --> I[Attended clinic n=3206 81.0%]
  
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Quality of life Short Form 36 (SF-36)

8 scales

- ◆ Physical functioning
- ◆ Role physical
- ◆ Bodily pain
- ◆ General health
- ◆ Vitality
- ◆ Social functioning
- ◆ Role emotional
- ◆ Mental health

Diabetes

- Diabetes information was collected as part of the self-complete questionnaire
 - ◆ “Have you ever been told by a doctor that you have diabetes?”
- Fasting plasma glucose and HbA1c measured at clinic visit
- Determined diagnosed and undiagnosed diabetes

Medication Use

- Medications data collected at clinic assessment
- Participants asked to bring in all medications currently being taken
- Both prescribed and complementary/alternative

Diabetes continuum

	No diabetes	IFG ≥ 6.1 mmol/L	Diabetes (≥ 7.0 mmol/L or self-reported)
STAGE 1 (n=4060)	89.1%	4.3%	6.6%

Diabetes continuum

	No diabetes	IFG ≥ 6.1 mmol/L	Diabetes (≥ 7.0 mmol/L or self-reported)
STAGE 1 (n=4060)	89.1%	4.3%	6.6%
STAGE 2 (n=3180)	84.8%	8.0%	7.2%

Annual incidence of diabetes: 6.8 cases per 1000 population

Mean SF-36 scores across the diabetes continuum

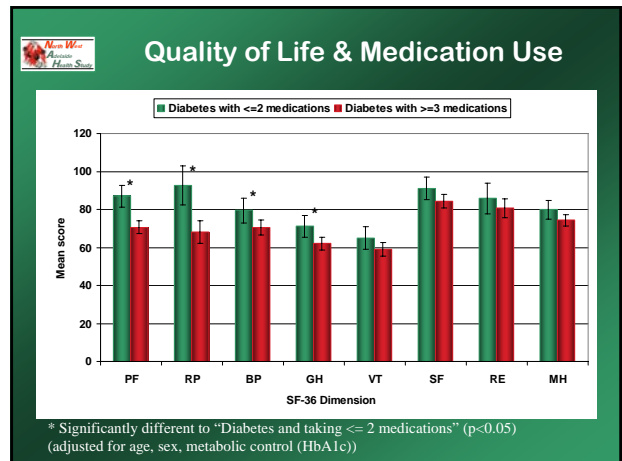
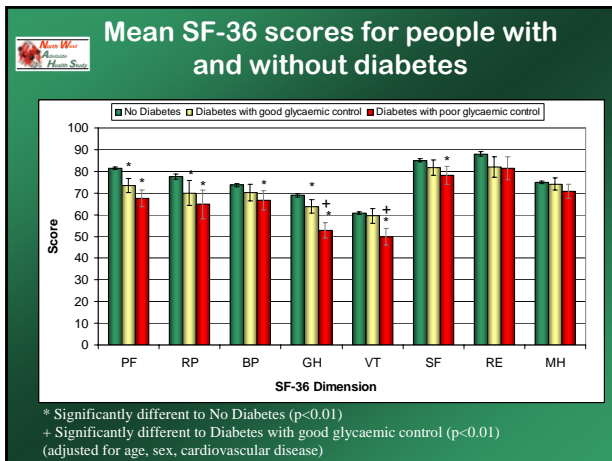
Dimension	Normal Glucose	IFG	Diabetes
PF	82	78	75
RP	78	75	72
BP	75	72	70
GH	70	68	65
VT	62	60	58
SF	85	82	80
RE	88	85	82
MH	75	73	71

* Significantly different to normal glucose (p<0.01) (adjusted for age, sex, cardiovascular disease)

Development of diabetes and quality of life at Stage 2

Dimension	Did not develop diabetes	Developed diabetes	Already had diabetes
PF	82	78	75
RP	78	75	72
BP	75	72	70
GH	70	68	65
VT	62	60	58
SF	85	82	80
RE	88	85	82
MH	75	73	71

* Significantly different to “Did not develop diabetes” (p<0.01) (adjusted for age and sex)



Conclusions

- The number of medications being taken by people with diabetes is associated with impaired quality of life, even after adjusting for metabolic control.
- Initiation of additional medications among people with diabetes should consider health-related quality of life.

Contact details

- North West Adelaide Health Study
www.nwadelaidehealthstudy.org
- Population Research & Outcome Studies Unit (SA Department of Health)
www.health.sa.gov.au/pros